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Factors Associated with Delay of Breast Cancer Diagnosis among Palestinian Women Who Are Treated at Beit Jala Governmental Hospital

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Factors Associated with Delay of Breast Cancer Diagnosis among Palestinian Women Who Are Treated at Beit Jala Governmental Hospital

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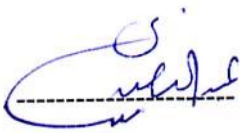
DEDICATION

To my parents who always set a good example for me to follow. I am indebted to them for encouragement and trust. I also dedicate this work to my sisters and brothers and last but not least to my wife Tasneem, who was/is my source of inspiration.

Abdel Naser Mahmoud Hasan Bdawi

DECLARATION

I certify that this thesis submitted for the Master Degree is the result of my own research, except where otherwise acknowledged, and that this thesis or any part of the same material has not been submitted for a higher degree to any other university or institution.

Signed: 

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Factors Associated with Delay of Breast Cancer Diagnosis among Palestinian Women Who Are Treated at Beit Jala Governmental Hospital

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Abstract:

Introduction: Breast cancer is the most common cancer in women and the sole greatest cancer killer among women across the globe; Breast cancer is also the most common cause of cancer death among women there were 522 thousand deaths in 2012. Breast cancer comes in the first place of cancer among Palestinian women, which has amounted to (35.4%) of total cancer cases in 2013, most of these women seeking medical attention in late stage.

Objectives: To determine if there is any delay of BC diagnosis among targeted women. To assess all possible factors/barriers associated with delay of breast cancer diagnosis. To identify the relationship between, socio demographic status, health seeking behavior, family history, type of initial symptoms and patient delay. To identify the relationship between the stage of breast cancer; tumor size and the delay of diagnosis.

methodology: A cross sectional study conducted among 194 Palestinian women with confirm breast cancer at any age, sample was selected from the Biet Jala Government Hospital, at day care ward, outpatient clinics. A face to face interview using a structured questionnaire. Which included demographic data, patient and family health history, breast screening and periodic follow-up to detect breast cancer, initial symptoms of breast cancer, the way it was discovered, the reason of diagnosis delay. the cause of the delay between the discovery of these symptoms and visiting the doctor and the reason for the delay in a final diagnosis after visiting the doctor. And lastly, the patients' records were investigated by the researcher identify the stage of breast cancer for each woman participated in the study**.**

Results: Our study conclude, 17.0% consulted within the first three months a. 37.1% waited for more than three months (patient delay). Provider delay was found in 46.9% of all women participant (over one months). Total delay was found in 60.8% of all women participant (over three months).

Many reasons for delay in seeking treatment were found; 98% of women did not consider symptoms were serious, 94.2% reported embarrassment of visiting the doctor and breast examination. women don't receive support from the spouse, family 93%, 77.8% respectively. 91.4% The economic situation of the family. Fear of, diagnosis of breast cancer, surgery, mastectomy or part thereof 90.8%, 88.6%, 74.2% respectively. 83.4% The impact on my status as a female or spouse. 80.6 % The presence of one of the family members suffering from breast cancer. 79.8 % belief that the therapy available for breast cancer leads to rapid death. 77.2% use alternative therapies such as herbal medicine. 72.8% refusal to go to a doctor and leaving to fate as whatever the outcome of breast cancer could be. 72.8% The lack of adequate time do I have. 70.6 % The lack of a woman doctor or a specialist. Diagnosis delay was significant association with age between (46-60) years (p value 0.010), lower educational level (p value 0.018), Married women (p value 0.001), low income level, (p value 0.046), presence of fibrous mass, milky secretions or inflammation in the breast in the period before the discovery of the disease (p value 0.022). Shorter delay significant association with visited one of the doctors During the five years preceding the discovery of the cancer (p value 0.039). family members (mother, sister) has or had breast cancer (p value 0.023). Women with Know how to perform BSE (p value0.035) and women practicing BSE (p value 0.028). initial breast symptom(s) that include a lump (0.011).

Our Study Findings Most of the patients (52.7%) had early stage BC (Stages I and II). And revealed the high proportion (47.3%) of women BC had advanced-stage (stage 3 and 4). This study found strong a significant association between patient delayed presentation, provider delayed and advanced stage at presentation was observed.

Conclusion: A complex matrix of factors was identified that contribute to the late presentation or delayed diagnosis of breast cancer among Palestinian women how treated at BJGH. In the sample studied, the majority of patients with breast cancer began treatment after a delay. Both patient delays and provider delays were associated with advanced disease, Breast awareness and education are required to promote early detection, this study recommended an establishment of a national program for early diagnosis and treatment before the tumors enlarge and metastasis. Health policy reform related to breast cancer delay diagnosis in Palestine.

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List of abbreviations

ACS	**American cancer Society**
B.C	**Breast cancer**
BJGH	**Beit Jala Governmental Hospital**
BSE	**Breast Self-Examination**
CBE	**Clinical Breast Exam**
HICs	**High- Income Countries**
MOH	**Ministry of health**
IARC	**International Agency for Research on Cancer**
LMICs	**low and middle income countries**
PCBS	**Palestinian Central Bureau of Statistics**
TNM	**Tumor size, Lymph Node Involvement, Distant Metastasis**
UICC	**International Union for Cancer Control**

CHAPTER ONE
Introduction

1.1 Introduction

Breast cancer is the most common cancer in women and the sole greatest cancer killer among women across the globe (Hirko, 2013). Globally, breast cancer incidence is on the rise, especially in developing countries where more than 1.2 million women are diagnosed with breast cancer annually worldwide (American Cancer Society, 2015).

According to International Agency for Research on Cancer (2013), breast cancer is the most common cause of cancer death among women there were 522 thousand deaths in 2012 and the most frequently diagnosed cancer among women in 140 of 184 countries worldwide, and represents one in four of all cancer types in women.

In addition, breast cancer is the most common cancer in women in the Eastern Mediterranean Region and the leading cause of cancer mortality worldwide (Khatib, 2006). In the Arab world breast cancer is the most common type of cancer among women that constitutes 13-35% of all female cancer, with a young age around 50 years, and over 60% of cases are with an advanced stage of the disease (El Saghir et al., 2007).

The Palestinian Ministry of Health report (2013) indicated that the number of the new cases of all cancer types for the year 2013 among females was 1127 (51.5%) of all new cases, and the number in males was 1062 (48.5%). The same report also mentioned that 401 breast cancer cases have been recorded. Thus, breast cancer comes in the first place of cancer among Palestinian women, which has amounted to (35.4%) of total cancer cases in 2013 (MOH Report, 2013).

From the statistics mentioned in the report one can conclude that there is a clear significant increase in cancer cases in the West Bank, and there is a bad need for more studies and

researches to be carried out especially breast cancer as the Palestinian ministry of health indicated.

Studies confirms that the percentages of breast cancer in Palestine is part of global proportions especially in neighboring countries, but what distinguishes the situation in Palestine is the late discovery of it. Darweesh study (2009) of Palestinian women with breast cancer in North West bank revealed that 60.7% of these women were diagnosed with advance stage of cancer at the time of diagnosis. The Palestinian Ministry of Health regretted the fact that most cases are discovered to be late, and related this delay to cultural and social barriers that prevent women to seek advice at the proper time. The same report further reiterated that early discovery of the breast cancer reduces breast cancer deaths of two thirds (Bitar in MOH Report, 2011).

The data mentioned in previous studies has also shown that in many Arab countries including Palestine that 50-80% of breast cancer women at presentation are with advanced stage of the disease. It is striking that more than 50% are with stage 2 and stage 3 (ElSaghir and Abulkhair, 2010). Besides, tumors in Palestinian women were generally detected by physical examination rather than by the widely screening mammography (El Saghir et al., 2007). This indicates that Palestinian women with breast cancer don't come to consultation in an early stage.

Based on these previous findings, one of these studies concludes that as a result of lack of awareness of early screening for breast cancer programs. Donnelly et al. (2013) revealed that among 397 Palestinian women aged 50 years and more found more than 60% of them had never attended mammography, and further elaborated that a large proportion of Palestinian women may attend for treatment in advanced stages, and this usually happens after three months of initial symptoms. McLaughlin et al., (2012) reported; a delay of breast cancer diagnosis of more than 60 days' results in cancer spreading to lymph node or distant sites and linked with an 85% of breast cancer death compared with women who were treated sooner.

Breast cancer total delay is classified in two types; patient's delay and provider's delay. The majority of studies have considered patient's delay for more than three months, which mean between the discovery of symptoms and the first medical consultation. Saldana and Castaneda (2009) reported that provider's delay is considered between the first medical consultation and the start of definitive treatment, the most accepted span is one month.

Some studies assure that there should be a number of factors associated with diagnosis delay. Some are referred to the provider delay such as negligence, postponing appointments or misdiagnosis (Goncalves et al., 2014; Poum et al., 2014; Abu-Helalah et al., 2016). Other reasons are associated with the patient delay as for example; symptoms were not considered serious, alternative therapy was applied in the patients and fear or shame prevents women from visiting the doctor (Khazaee et al., 2014; Alhurishi et al., 2011).

The studies also mentioned that initial breast symptom(s) without a lump was strongly associated with diagnosis delay (Meechan et al., 2003; Elobaid et al., 2014; Innos et al. 2013; Burgess et al; 1998). Lack of knowledge about breast cancer and screening activities, fear of breast cancer diagnosis, inability to provide financially and place of residence are factors expected to be major barriers for many Palestinian women to have treatment in the proper time (Qabaha et al., 2015; Tfayli et al., 2010; Azaiza et al., 2010).

Therefore, this study was conducted at Beit Jala Governmental Hospital in Bethlehem city, the only hospital treating cancer in the southern West Bank aiming at identifying the average time period for the delay of breast cancer diagnosis and treatment among women being treated for breast cancer in this hospital. Also, the study identified the factors and reasons that prevent these women from visiting a doctor for care and treatment in the proper time in order to lessen the opportunities of delay. Here comes the importance of the study which aims to recommend on adding more emphasis on screening through increased awareness and education among Palestinian women to avoid the advanced stages of breast cancer.

1.2 Research problem

The Palestinian Central Bureau of Statistics-PCBS (2013) reported that Breast cancer comes in the first place of cancer among Palestinian women which has amounted to (35.4%) of total cancer cases in 2013. The World Health Organization states (2014) reported that 40% of breast cancer cases are curable if they are exposed to an early diagnosis with enough detection and less metastasis. Taha et al., (2012) elaborated that the 5-year survival rate reaches 88% -93% when breast cancer is detected in its earliest stages (0 and I) respectively compared to 15% in stage IV. El-Saghir et al. (2007) commented

that late diagnosis is a major factor related to the higher mortality among Palestinian women with breast cancer.

Understanding the factors and barriers that are associated with breast cancer delay are important issues to the development of strategies for shortening this delay. In Palestine, there are no mature studies to clarify the causes of delay to an early breast cancer diagnosis and whether these reasons are related to the patient herself or to health care provider. According to Arndt et al. (2002), patient's delay is defined as the period from first onset of symptoms to first medical consultation, while provider's delay covers the period from first consultation to definite diagnosis and treatment. Delayed presentation of symptomatic breast cancer of three months or more is associated with lower survival rate from the disease (Richards et al., 1999).

Several studies have shown that the delayed presentation of symptomatic breast cancer is associated with worse prognosis and tumor progression meaning an increase in mortality rate (Arndt et al., 2002; Ermiah et al., 2012). When breast cancer is detected early (localized stage), the 5 years' survival rate is 98 % (National Breast Cancer Foundation, 2014). This concludes that breast cancer mortality could be reduced if the disease was detected at an early stage by the implementation of proper awareness and screening programs.

Therefore, to improve breast cancer care, one must understand the causes of the delay in diagnosis and therefore the treatment. Early detection of breast cancer is considered as an important issue for intervention to reduce disease advancement and mortality rate.

Unfortunately, there are a few marginal studies concerning breast cancer delay of diagnosis in the West Bank. After reviewing some studies worldwide on the subject, the possible barriers to breast cancer detection and early diagnosis are due to; financial shortcomings, misconception about breast cancer screening related to social norms and its implications such as shyness and fear of cancer, wrong beliefs and fatalistic attitudes and lastly, could be the lack of health care facilities (Alhurishi et al., 2011; Ermiah et al., 2012; Elobaid., 2014). In developing countries, the literature shows that negative socio-cultural perception of breast cancer, strong beliefs in traditional medicine and perhaps strong religious beliefs are the main reasons for the delay in presentation (Hadi et al., 2010).

Thus, reducing the time between the onset of the first symptoms of B.C and the first consultation, and reducing the time between first consultation to start effective treatment is essential to improve disease prognosis and improve quality of life.

Therefore, identification of barriers to an early diagnosis of breast cancer and finding means to facilitate early detections in order to avoid advance stages of cancer at presentation among Palestinian women is of major concern of the researcher and health care professionals as well.

1.3 Justification of the study

This study will create a better understanding of the factors associated with the delay for seeking cancer treatment which is important in order to increase overall cancer survival rate among breast cancer Palestinian women. In addition, the study will be of value to public health professionals, physicians and other health care providers as it will identify knowledge and perception towards occurrence, symptoms, risks, survival, progression and treatment of breast cancer. Also, the study will support the global and national efforts aiming at reducing premature deaths among Palestinian women with breast cancer.

The expected results will help in both ways: informing and promoting optimal early diagnosis and treatment among the breast cancer patients. It will generate a better awareness and a keen insight that can support programs in developing effective strategies for addressing the challenges that hinder the early detection and treatment of breast cancer as well as inform future health care policy and practice that will increase an early diagnosis and optimal utilization of facilities.

Besides, the study aims to recommend for mechanisms to be stimulated for early detection and treatment of breast cancer women, create awareness of breast screening and reduce the incidence of late breast cancer diagnosis. It will also engender information for the Ministry of Health to promote early breast cancer detection among women and men as well to reduce accessibility obstacles to medical care.

Moreover, the study is expected to assist the Ministry of Health in the formulation and implementation of national cancer control in the long-term future strategy. Relevant sectors in the Ministry of Health and Medical services are also expected to benefit from this study

in coming up with the best methods of breast cancer prevention and control among women in general and low resource areas in specific.

In addition, the study will be beneficial to the governmental and non-governmental organizations which have an interest in cancer control and prevention. It promotes the best methods of increasing breast cancer awareness among women in low resource areas and ways of improving access to breast cancer screening and diagnostic services. It will encourage the endorsement of other preventive measures and also inform them of how women in low resource areas perceive breast cancer. This study also aims to inform the health service providers on women expectations in order to encourage breast cancer screening and diagnosis attendance as well as being used as ground for further research.

1.4 Breast Cancer; identification, pathological changes, manifestation and staging

1.4.1 Identification and background

Breast cancer has become one of the defying public health problems in many developing countries including Palestine as the mortality and incidence rate are increasing. The PCBS (2013), reported that breast cancer among Palestinian women was 18.3%, rated third among factors that lead to death and occupied the first and the most common type of cancer. The report also mentioned that breast cancer represents 35.4% of all cancer cases, and 60% of the affected age group was between the 15-60 years old.

This indicates that breast cancer cases have been diagnosed at a later stage or discovered cases are not adequately treated. Therefore, this study was conducted on confirmed breast cancer women being treated at Beit Jala Hospital to determine the factors and barriers associated with their delay for their breast cancer diagnosis and treatment. Also, the study aimed to determine the reasons for delay whether referred to patient himself or to health care providers and to explore relationship between the stage of breast cancer and delay of diagnosis. Beit Jala Hospital receives cancer cases from southern West Bank, Bethlehem and Hebron, and it sometimes receives cases of cancer from the middles region (Ramallah and Jericho).

According to Hazboun and Glennon. (2011), Palestinians have limited health awareness regarding breast cancer because of limited resources; the economic status of population discourages breast cancer screening, the Palestinian life in general relates to culture, methods of early breast cancer detection such as clinical breast exams are rarely performed and screening with mammogram is only available at Bethlehem primary care center. They further commented, the majority of Palestinians does not have appropriate health insurance and cannot afford to seek health care because 60% of population is poor and unemployed.

1.4.2 Pathological changes and manifestations

To be more precise and to address the topic from a medical point of view one can argue changes in the breasts may be caused either by benign (non-cancerous) conditions or malignancy (cancerous). Benign breasts have many of the same symptoms as breast cancer; benign breast condition often causes lumps, which mostly aren't breast cancer (American Cancer Society, 2016). The only safe way to distinguish between benign lump and cancer is by the tissue examined, biopsy (WebMD, 2014).

Breast cancer is characterized by an uncontrolled growth of abnormal cells. There are two types of breast cancer; non-invasive breast cancer where abnormal cells grow inside the lobules or grow inside the milk ducts. This means cancer cells do not spread to other tissues in the breast or other parts of the body. Invasive breast cancer can start in the milk ducts or the lobules, but the cancer cells spread to other breast tissues or parts of the body (Davis etal., 2010).

Most breast cancers are commonly formed in the inner lining of milk ducts or the lobules that supply the ducts with milk. Cancer originates from lobules that are known as lobular carcinoma, and those originating from ducts are known as ductal carcinoma (Parkash, 2014).

Ermiah et al. (2012) reported that the most frequent symptoms of breast cancer are a painless breast lump, or a lump under the arm pit, nipple discharge, and it can be a change in the shape of breast, lumpiness in breast or skin irritation or itching.

Cancer Research UK (2014), reported, the initial symptom of breast cancer in many women is a lump. On the other hand, many women have breast lumps but 9 out of 10

(90%) are benign (Cancer Research UK, 2014). Diagnostic mammography is usually used to assess possible breast cancer in women who present with disease (Barlow et al., 2002). The sign and symptoms include, breast mass or lump, swelling of all or part of the breast, skin irritation, breast or nipple pain, redness or thickening of the nipple or breast skin, a nipple discharge, also it is possible that breast cancer can spread to lymph nodes under the arm (American Cancer Society, 2016).

The diagnosis of breast cancer depends on clinical, radiological and pathological examination. Clinical examination includes palpitation of the breast and regional lymph node while radiological examination includes mammography and ultra sound of breast; pathological examination when used is based on core needle biopsy (Aebi et al., 2011).

Mammography is an x- ray which detects 85% of BC. A distinction should be made between diagnostic mammography and screening mammography, 45% of BC can be seen by mammography before they are palpable (Abu Shmais, 2010).

The treatment is usually determined by the size, stage and other characteristics. Such treatment may include surgery, drug (hormonal therapy and chemotherapy), radiation or immune therapy (Parkash, 2014).

1.4.3 Staging

Many studies argue that the initial breast symptoms without lump were strongly associated with diagnosis delay. When breast cancer diagnosis is established, the staging of the disease provides the basis of best choice of treatment. According The American Joint Committee on Cancer (AJCC) and the International Union for Cancer Control (UICC); (ACS, 2015)

- using information about tumor size, how far it has spread within the breast and organs (T),
- lymph nodes involvement (N),
- and the presence or absence of distant metastasis (M).

Once the T, N, and M are determined, a stage of I, II, III, or IV is assigned, where stage I an early stage and stage IV the most advanced one. Early breast cancer diagnosis refers to

breast cancer in stage, 0, I and II at the time of diagnosis (American cancer society, 2014). Stage is described as how wildly the disease spreads, the disease stage is usually described by using the number 0-4, low number indicates the earlier stage of cancer, Staging the disease clarifies the way the disease progresses (National Breast Cancer Foundation, 2015)

There are many risk factors of breast cancer that were suggested in previous studies. The most important of these factors are ewer births, later age at first full-term pregnancy, not having breastfed, early age at menarche, irregular menses, late menopause, the use of exogenous hormones (e.g., oral contraceptives), obesity, physical inactivity and the family history of breast cancer (Canadian Cancer Society, 2014).
Although most studies clarify many risk factors of breast cancer, but primary prevention is still not available (Caplan, 2014). Therefore, the main effective ways to control the disease and reduce the incidence of morbidity and mortality from breast cancer is to promote early diagnosis through screening and awareness and early treatment of breast cancer.

1.5 Goal and objectives of the study

To identify factors associated with delay of breast cancer diagnosis among Palestinian women being treated for B.C at Biet Jala governmental hospital. These factors include the patient perception and practices toward B.C and health care services provider for her. To achieve this goal, the following measurable objectives are set.

- To determine if there is any delay of BC diagnosis among targeted women.
- To assess all possible factors/barriers associated with delay of breast cancer diagnosis.
- To identify the relationship between, socio demographic status, health seeking behavior, family history, type of initial symptoms and patient delay.
- To identify the relationship between the stage of breast cancer; tumor size and the delay of diagnosis.

1.7 Research question

- What are the factors associated with delay of breast cancer diagnosis among women with breast cancer treated at BJGH?
- is there a delay between the presence of symptoms and medical consultation, and the first visit the doctor to final diagnosis and treatment? Are there relationships between this delay and stage of B.C?
- what are the reason (barrier) that prevent patients to seek medical consultation after discovery of symptoms?
- what are the reason that difficult health care provider to early diagnosis of B.C?

1.8 LIST OF DEFINITIONS

Breast Cancer Delay (diagnosis delay or total delay): A lapse of more than three months between symptom discovery by the patient and the beginning of definitive treatment.

Patient Delay: An interval longer than three months between symptom discovery by patient and first medical consultation.

Provider Delay: A period of more than one month between the first medical

consultation and confirm diagnosis to initiation of treatment.

Breast Self-examination (BSE): done by the woman every month in order to detect any changes in the breasts and beginning in 20s (WHO, 2016) and (Mayo clinic, 2016)

A mammography: is a kind of test that produces an image of the inner breast tissue on a film. It uses x-rays to visualize normal and abnormal structures within the breasts (WHO, 2016), (ACS, 2014).

A Clinical Breast Exam (CBE): is a physical exam of the breasts which is normally done by a health care provider such as a doctor, nurse practitioner, nurse, or physician assistant as part of a regular medical examination; the health professional carefully feels both the breast and the underarm for abnormalities (WHO, 2016) and (National Breast Cancer Foundation. 2015)

The Health Belief Model (HBM): is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals.

palliative care: is specialized medical care focused on relief of the pain, symptoms and stress of serious illness. The goal is to improve quality of life for both patents and family. It is appropriate at any age and at any stage in your illness and can be provided along with treatment meant to cure (Center to Advance Palliative Care,2011).

CHAPTER TWO

Literature Review

2.1 Introduction

This chapter will present studies related to breast cancer starting with; epidemiology of BC, early detection of BC followed by diagnosis delay (patient and provider delay). Obstacles which hinder patients from visiting the health care providers and reasons which make it difficult for the health care provider to an early diagnosis. Lastly, studies on the relationship between diagnosis delay and tumor staging.

2.2 epidemiology of breast cancer

The global burden of breast cancer in women is measured by incidence, mortality, and economic costs as public health data indicates. The World Health Organization (WHO) estimated over 508, 000 women died in 2011 due to breast cancer. Almost 50% of breast cancer cases and 58% of deaths occur in less developed countries.

Breast cancer is the most common cancer in women (Tfayli et al., 2010) reviewed the challenges of epidemic breast cancer and he concluded that around 45% of breast cancer cases and 55% of breast cancer deaths occur in low and middle income countries; accounting for 23% of all female cancers around the globe. It is estimated that 45% of the 1.35 million new cases are diagnosed each year, and more than 55% of breast cancer related deaths, occur in low and middle income countries, an estimated 1.7 million women will be diagnosed with breast cancer in 2020—a 26% increase from current levels, mostly in the developing world.

In Arab countries, the data also shows that similar trends with a rate of advanced or metastatic stage reaching 60 to 80% of cases. In Egypt for example, stages III and IV constitute 68% of all breast cancer cases. As for Saudi Arabia, stages III and IV constitute about 46% of cases. Also in Oman the rates are high amounting to 50.8%. Efforts aimed at early detection can decrease stage at diagnosis and potentially improve the probability of

survival and cure. The mastectomy rates in Arab countries are high amounting to 79.9%–82% in Egypt, 65% in Oman, 70% among Palestinians, 88% in Syria, and 82.4% in Tunisia. In general, the majority of patients present with stage IIIa and IIIb tumors reaching levels of 62% in the Arab world (Tfayli et al., 2010).

Worldwide, breast cancer is the third most frequent cancer in the world (796,000 cases in 1990) and by far the most common malignancy of women (21% of all new cases), breast cancer ranks as the fifth cause of death from cancer overall. Although it is still the leading cause of cancer mortality in women. There are 314,000 annual deaths which represent 14.1% of cancer deaths in females (Parkin et al., 1999*).*

Jemal et al. (2011) clarify Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death among females, accounting for 23% of the total cancer cases and 14% of the cancer deaths. In general, breast cancer incidence rates are high in Western and Northern Europe, Australia/New Zealand, and North America; intermediate in South America, the Caribbean, and Northern Africa; and low in sub-Saharan Africa and Asia.

Qabaha et al. (2015) Clarify Breast cancer is a major threat for Palestinian women and healthy living. breast cancer amounted to 35.4% of all types of cancers among Palestinian women. The percentage of incidence is 1 out of every 13 women. In 2013, 401 cases were diagnosed with breast cancer compared to 292 cases that were diagnosed with breast cancer in 2012.

Table 2.1 Clinical stage of breast cancer patients by country

	Year(s)	TNM staging system			
		I	II	III	IV
High-income Countries:					
Australia[9]	2000-2007	-	-	-	-
Canada[9]	2000-2007	41.0	38.1	13.3	7.6
Denmark[9]	2000-2007	29.3	47.2	15.8	7.7
Germany (Saarland)[11]	1996-1998	-	-	-	-
Northern Ireland[91]	2006	30.4	43.6	19.6	6.4
Norway[9]	2000-2007	43.4	47.1	3.8	5.7
Saudi Arabia[92]	2004	-	-	-	-
Sweden[9]	2000-2007	45.2	46.5	5.3	3.0
United Kingdom[9]	2000-2007	40.0	45.4	9.2	5.4
United States[10]	2002-2008	-	-	-	-
Low and middle-income countries:					
Brazil					
Goias[93]	2002-2009	14.7	36.1	27.9	21.3
Porto Alegre[94]	1975-1997	16.0	54.0	19.0	11.0
Sao Paulo[94]	1979-1989	11.0	22.0	53.0	14.0
Colombia (Bogota)[95]	2006-2007	-	-	-	-
Egypt (South Cancer Inst.)[96]	2001-2008	11.0	39.0	25.0	25.0
Egypt (Gharbiah)[97]	1999-2008	-	-	-	-
India[98]					
Mumbai	1995	7.8	57.4	28.4	5.9
Trivandrum	1996	4.4	42.3	40.5	12.8
Chennai		1.0	23.0	52.0	24.0
Iraq (Kurdistan)[99]	2006-2008	4.9	53.3	31.8	9.9
Jordan[100]	2009	29.0	30.0	23.0	10.0
Libya[22]	2008-2009	9.0	25.5	54.0	11.5
Malaysia (East Coast and Kuala Lumpur)[26]	2005-2007	5.2	38.7	44.8	11.3
Mexico					
INCAN[101]-uninsured pop.	2007	10.2	36.4	40.9	12.5
IMSS[102]-insured pop.	2002	13.8	39.6	33.9	12.7
Nigeria (Lagos)[103]	2009-2010	5.5	15.4	62.7	16.4
Peru (Lima)[94]	1985-1997	9.0	42.0	33.0	16.0
South Africa[104]					
Whites	1970-1997	30.8	38.0	18.8	11.9
Blacks		5.4	16.9	41.6	36.1
Thailand[36]	2009	12.0	38.0	41.0	9.0

The table summarizes the clinical stage data reported for different countries. As shown, while the majority of breast cancers are diagnosed in localized stages in HICs, most are detected in regionally spread stages in LMICs. In HICs, more than 70% of breast cancer patients are diagnosed in stages Ⅰand Ⅱ; Sweden and Norway have proportions above 90%. In contrast, in LMICs, only between 20 and 60% of patients are diagnosed in these earlier stages, while between 30 and 80% are diagnosed in stages Ⅲand Ⅳ. (Saldana, 2014).

2.3 Early detection of breast cancer

Early detection refers to the notion of "using an approach that let's breast cancer gets diagnosed earlier than otherwise might have occurred (ACS, 2012).

The main goal of breast cancer screening program is detection of breast cancer at early stage, Breast cancer screening can reduce morbidity and mortality and improve the survival rate for this malignancy (Seif and Aziz, 2000; Otaghvar et al.,2015).

Johnson, (2006) Reported that Early detection methods, such as mammography, clinical breast examination and breast self-examination, can play an important role in the reduction of deaths from breast cancer in the absence of primary prevention strategies.
Rezaianzadeh et al. (2009) clarify the results demonstrate that survival is relatively poor and is associated with diagnosis with late stage disease. that this is due to low level of awareness, lack of screening programs and subsequent late access to treatment.
Khokher et al. (2015) that awareness activities about breast cancer screening are effective to increase the knowledge of women and better impact is associated with higher education and younger age of women.

Elobaid et al. (2014) reported Common barriers towards screening included fear of pain and embarrassment, fear of radiation causing cancer, and perceived inadequate facilities.

Knowledge of breast self-examination increased the likelihood of women to present in early stages. Lack of knowledge about BSE and not having a previous CBE or a mammogram were also associated with late stage at presentation (Stapleton et al. 2015).

In the study conducting among Malaysian women the study showed awareness of breast cancer and practice of screening procedures increases with higher education and urban living. Therefore, there is an urgent need for an intensive breast cancer awareness campaign and availability of screening centers prioritized in rural areas (Kanaga et al., 2011)

Radi, (2013) reported that age, marital status and level of education as significant factors associated with BSE practice.

Women with low educational attainment, low cancer knowledge, and no usual source of care were less likely to be CBE or mammogram compliant. Socioeconomic differences were larger for the two clinical tests than for BSE (Harris et al., 2003).

A study conducted among Muslim Arab women in Israel to assess explanatory factors of mammography screening behavior. the study concludes That women who were significantly more likely to undergo mammography were those who received a recommendation from a health professional or from family/friends, perceived themselves as vulnerable to getting breast cancer, believed in the efficacy of the test, perceived it as not painful, were younger, were more educated (Soskolne et al, 2006).

ACS. (2015) guidelines for the early detection of breast cancer vary depending on a woman's age and include mammography and clinical breast examination (CBE), as well as magnetic resonance imaging (MRI) for women at high risk. Mammography should begin annually at age 40 with no specific age to stop. Clinical breast examination should be done every 1–3 years for women aged 20–39 years and annually for women aged 40 years and older, prior to mammography. Magnetic resonance imaging is recommended for women with a 20%–25% or higher lifetime risk for developing breast cancer. MRI should be performed annually beginning at age 30. Although the (ACS) no longer recommends that all women perform monthly breast self-exams (BSE), women should be informed about the potential benefits and limitations associated with BSE

A study conducted among 397 Palestinian women in the West Bank aged from 30-60 years, the study showed that more than (70 %) of the participants never applied mammography or CBE, and 62% of the participant applied BSE (Azaiza et al., 2010).

A study conducted among 519 Jordanian women in order to examine the factors and beliefs that have a kind of relation to the practice of BSE, the study found that (67%) had heard of and/or read about breast self-examination, and only (7%) of them had done self-breast examination monthly (Petro-Nustus and Mikhail, 2002).

A study conducted among 1,315 Saudi adult females with no previous history of breast cancer, the results found that CBE performed by less than (5%) and mammography by only (3%) of the participants (Amin et al., 2009)

2.4 Diagnosis delay, patient and provider delay

The first study on cancer delay where these two types of delay are described was done by Pack and Gallo in 1938. They defined "*undue patient delay"* as "three months or more elapsed time between discovery of symptoms and a visit to a physician, *Provider delay* refers to a prolonged period of time between the initial medical consultation and the beginning of definitive treatment. It is also known as *system* or *doctor* delay. Pack and Gallo defined one month as "adequate time for the physician to take appropriate action. This first definition has been surprisingly preserved for 70 years in most studies of patient delay and provider delay (Saldana and Castaneda, 2009).
cross-sectional study 180 patients with invasive breast cancer were interviewed about potential risk factors and markers of delayed presentation. Patient delay was defined as time from onset of symptoms to first consultation with a health care provider, and doctor delay was defined as time from first consultation with a health care provider to diagnosis of breast cancer, 17% delayed seeking consultation for longer than 3 months, and 42% reported a doctor delay of longer than 3 months, the study conclude Hospital referral from a health care provider was a major contributor to delayed diagnosis. Breast cancer awareness campaigns in Thailand should target individuals in low- and high-income groups, as well as practitioners (Poum et al., 2014)

A cross-sectional study on female breast cancer patients in Jordan. The total number of participants was 327. The proportion of patients with presentation delay, diagnosis delay, and treatment delay was 32.2%, 49.1%, or 32.4%, respectively. The main reported reasons for delay in presentation were ignorance of the nature of the problem (65.6%), limited/lack of knowledge that symptoms were suggestive of cancer diagnosis (16.7%), and misdiagnosis (16. 7%).study conclude advanced stages at diagnosis and poor outcomes for breast cancer patients in Jordan. We recommend revising the current early detection and down-staging programs in Jordan (Abu-Helalah et al., 2016).

Odongo et al., (2015) conducted a study among162 patients with newly discovered B.C in low income countries –Uganda, 139 (89 %) patients delayed by more than 3 months after noticing symptoms of breast anomaly. Patients with no social support from spouses and family were more likely to delay (OR = 7.1, 95 % CI 2.4–21.5, p = 0.001), those who perceived the symptoms as very serious were less likely to delay (OR = 0.2, 95 % CI 0.1–

0.6, p = 0.007). There was a significant association between delayed presentation and advanced stage at presentation (p = 0.006).

The delay in diagnosis and treatment is categorized into patient or provider. Arndt et al. (2002) conducted a study among two hundred and eighty-seven Germany women in Saarland, a state with about 1 million inhabitants in Western Germany, aged 18 to 80 years with newly diagnosed invasive symptomatic breast cancer, were interviewed to the diagnostic process. Patient delay was defined as time from the onset of the first symptoms to the first consultation of a doctor. Eighteen per cent of all breast cancer patients waited longer than 3 months before consulting a physician. The most common reasons for patient delay symptoms as harmless was the most important reason for more than half of the patients (55.3%) to delay seeking doctors' advice for more than 1 month. Time constraints (14.6%), considering symptoms as temporary (13.6%), and older women tended to consider their symptoms as temporary more often than middle aged or younger women (20.5% vs 11.6% vs 4.8%), a strong association between age and patient delay, the late stage breast cancer was found in 51.6% of all patients. It tended to be more frequent among women with patient delay of 43 months' delay (58.0%) than among women who consulted a doctor within 1 month after onset of symptoms (48.9%; Ptrend=0.22).

Pineros et al. (2009) conducted a study among Colombian women with breast cancer to assess characterized diagnosis and treatment of breast cancer in Bogota, Colombia and examine the extent and determinants of patient delay. The majority (65.9%) of symptomatic women consulted within the first month, 13.8% consulted within the first three months and 20.3% waited for more than three months. The most frequent reasons for delay among women with a more than 3-month-delay were: not considering symptoms to be important (32.9%), a lump that did not hurt (28.2%), fear of cancer diagnosis (7.9 %) and time constraints (7.6%). Analysis showed the following socio demographic variables as statistically associated with delay: older age (>65 years) (p= 0.019), lower education level (p= 0.000), poorer housing conditions (p= 0.011) and no affiliation with the health care system (p= 0.005). Diagnosis at advanced stages was also associated with delay (p= 0.000).

Poum et al. (2014) conducted a study among 180 Thailand women factors associated with delayed first consultation for breast symptoms (patient delay), delayed diagnosis after first consultation (doctor delay), the study concludes 17% delayed seeking consultation for longer than 3 months, and 42% reported a doctor delay of longer than 1months. In multivariate linear analysis, a significant increase in patient delay was associated with higher family income and smoking; factors associated with increased doctor delay were previous breast symptoms, self-treatment, and travel time to the hospital.

2.5 Obstacles which hinder patients from visiting the health care provider

Several studies had been conducted on patient delay focusing on different factors affecting the delay. Norsa'adah et al. (2011) conducted across sectional study among breast cancer women in Malaysia, in this study diagnosis delay was defined when there was more than 6 months from the recognition of symptoms to the histological diagnosis, consultation time is measured by the time from the first recognition of symptoms to the first general practitioners. 328 respondents were included in the study; most respondents had ductal carcinoma (89.3%), The frequency of diagnosis delay of more than 3 months was 72.6% and delay of more than 6 months occurred in 45.5% of the cases, the factors significantly associated with diagnosis delay were the use of alternative therapy, breast ulcer, palpable axillary lymph nodes, false-negative diagnostic test, non-cancer interpretation and a negative attitude tow treatment.

Ermiah et al. (2012) conducted a study among 200 Libyan female breast cancer. The study concluded a number of factors associated with diagnosis delay: Symptoms were not considered serious in 54 (27%) patients. Alternative therapy was applied in 13.0% of the patients. Fear and shame prevented the visit to the doctor in which 10%respectively of the patients. 31 patients (15.5%) were inappropriately reassured after first medical visit that the lump was benign. Initial breast symptom(s) without a lump was strongly associated with diagnosis delay ($p < 0.0001$).

In a study conducted among Palestinian women in the West Bank , to assess screening behaviors in relation to cultural and environmental barriers with low screening for breast cancer , participant were 397 Palestinian women residing in the West Bank including 100 from each district in the West Bank districts ; Bethlehem ,Hebron, Nablus, and Ramallah , the study shows greater than 70% of the women had never undergone mammography or clinical breast examination (CBE), whereas 62% performed self-breast examination

.Women were more likely to undergo mammography if they were less religious , and if they expressed lower personal barriers .Women were more likely to perform clinical breast examination if they were more educated, resided in cities, were Christian, were less religious, had a first degree relative with breast cancer, perceived higher effectiveness and benefits of clinical breast examination(Azaiza et al., 2010).

Meechan et al. (2003) in a study to assess the relationship between delay and the type of breast symptom, women who had a breast lump waited a significantly shorter time period before visiting the doctor than those without a breast lump.

Shaheen et al. (2011) conducted a study to investigate barriers and opportunities for breast cancer screening, the invited Palestinian women were divided into two groups. Group 1women living in the Gaza Strip (WIG), and group 2 Palestinian women from Gaza who had been living outside the Gaza Strip for at least one year. The WOG group was comprised of women living in 9 different countries (Canada 19, Jordan 18, Saudi Arabia 7, United Arab Emirates 5, Egypt 2, United States 1, Kuwait 1, Japan 1, and Sweden 1). The survey data were organized into five categories: Demographics and risk factors, women's attitudes toward breast health, knowledge and misconceptions about breast cancer, cultural, religious and societal values, and resources and accessibility of medical services. The survey found that over 90% of both groups were willing to undergo a diagnostic mammogram for a breast complaint and 86% of WIG and 85% of WOG believed survival was increased with early detection. Only 27% of WIG and 50% WOG were willing to undergo screening mammography. Religion and culture were not barriers to mammography for over 94% of WIG and 98% of WOG. Limited resources and lack of access to medical facilities were identified as barriers in up to 55% of WIG compared to 15% of WOG. Misconceptions about breast cancer were reported more frequently by WIG. Another study conducted among Arab Women in the United Arab Emirates to evaluate breast cancer awareness, knowledge, and practice, the study shows Women easily fall in misconceptions about breast lumps, nearly one third of the participants interpreted the presence of a breast lump, women who did not interpret as threatening or alarming sign of breast cancer. Nearly 57% of participants misunderstood screening as seeking medical attention only when having symptomatic breast complaint, Common barriers towards screening included fear of pain and embarrassment, fear of radiation causing cancer, and perceived inadequate facilities (Elobaid et al., 2014).

Neal and Allgar. (2005) conducted study among 65192 patients in England with one of six types of cancer (female breast, colorectal, prostate, NHL, lung, and ovarian in England, Various components of delays (patient and primary care delays, referral delays, secondary delays, and total delays) were calculated from answers to questions about their cancer, the study concluded. These were as follows: sex – female subjects had longer delays than males; age – younger people had longer delays than older people; marital status – single and separated/divorced people had longer delays than married people; social class – lower social class groups had longer delays than higher social class groups; and ethnic group – Black and south Asian people had longer delays than white people.

Another study conducted among British women to assess knowledge and beliefs regarding breast cancer, the study concluded that poorer knowledge of symptoms and risks among older women may help to explain the strong association between older age and delay in help-seeking. In the current sample, women aged 35 – 59 years were perceived to be most at risk of developing breast cancer. Breast cancer is the single commonest cause of death among women aged40 – 50. However, in absolute terms advancing age is the greatest risk factor for developing breast cancer. approximately one-third of all breast cancers occur in women aged over 70. The Knowledge of symptoms was poorer among older women and women who had never been employed. Older women were less likely to perceive nipple eczema, changes in the shape or size of the breast and nipple retraction as symptoms of breast cancer. It is possible that older women attribute such symptoms to the ageing process (Grunfeld et al., 2002).

However, in absolute terms advancing age is the greatest risk factor for developing breast cancer Approximately one-third of all breast cancers occur in women aged over 70 (Partridge et al., 2012).

Another study carried out among Arab women living in Qatar , to assess Beliefs and attitudes about breast cancer and screening practices , the study concluded that the main reasons given for not planning BCS were lack of a doctor's recommendation, fear, and embarrassment , the study indicated that a variety of channels (health care providers, media, breast cancer survivors, community leaders) should be utilized to create culturally appropriate breast cancer intervention programs and increased awareness of breast cancer (Donnelly et al., 2013).

2154 Nigerian breast cancer patients of all ages and socio-economic groups, 87% presented in Stages III or IV and only 13% in Stages I or II. All were questioned on their reasons for not attending hospital sooner. The most common reason for delay (963 patients, 44.7%) was fear of mastectomy. Other reasons given include preference for prayer houses or spiritual healing homes in 291 patients (13.5%) a belief that the lesion was inflammatory in 183 (8.5%), preference for native doctors or herbalists in 497 (23.1%) and economic reasons in 220 (10.2%) (Ajekigbe, 1991).

2.6 Patient delay.

2.6.1 Socio economic variables and patient delay

The social and the culture role that women play in the Arab community and the social stigma around breast cancer may have prevented the early detection of the disease. Many factors play a role in creating cancer disparities. Some of these factors are socio-economic status, culture, and social injustice, with poverty being the dominant factor (Elobaid, 2014).

In the study occur among Iranian B.C women the study clarifies that the age of the higher risk of age group 40–49 years and the advent of advanced breast cancer (Otaghvar et al., 2015).

Innos et al. (2013) clarify the risk of prolonged delay of breast cancer diagnosis was significantly associated with age 65 years and over (OR 2.27, 95% CI 1.23–4.20), the same study clarify Non-significant risk increase was seen with lower education.

Linsell et al. (2008), Rauscher etal. (2010) Clarify that older women they are more at risk of breast cancer and more likely to delay seeking help with breast cancer symptoms than younger women.

Najjar and Easson. (2010) clarify the impression among Arab Physicians dealing with breast cancer is that it presents at an earlier age and at a more advanced stage as compared to western countries. However, the statistical data to support this impression is remarkably scarce, twenty-eight articles were identified and reviewed, we performed a comprehensive

literature review of reports of breast cancer in Arab countries. Articles were identified from Saudi Arabia, Bahrain, Qatar, Kuwait, Emirate, Oman, Yemen, Iraq, Syria, Jordan, Lebanon, Egypt, Libya, Algeria, Tunis, Morocco, and Sudan. the average age was 48 (SD ¼ 2.8), range 43e52, median 48.5 and mode 45 years among the 7455 patients included.

Alhurishi et al. (2011) assess Factors Influencing Late Presentation for Breast Cancer in the Middle East, the study revealed Older age and lower educational level, Un married were found to have strong effects in explaining late presentation.

In the study conducted among Iranian women, the study showed the association between the delay diagnosis and embarrassments, there is a powerful cultural belief that breasts are sexual organs that should not be discussed publicly (Khazaee et al., 2014).

Although breast cancer historically has been more common in industrialized, affluent countries and among more affluent women in any given country (i.e., a positive socioeconomic gradient), incidence rates in poorer countries and among poorer women in more affluent countries (Krieger, 2002).

Osborne et al. (2004) Clarify married women less delay and were at decreased risk for mortality after a diagnosis of breast cancer. Many of the health benefits enjoyed by married women are likely derived from increased social support and social networks.

Burgess et al. (1998) Clarify the risk factors for patient delay included not disclosing the discovery of a symptom and needing to be prompted to attend the GP by someone else suggest that women's' help-seeking behavior is responsive to social influences.

Chintamani et al. (2011) clarify factors that are responsible for the patient or provider delays in the diagnosis of breast cancer. The Literacy rates and rural background were found to be significant factors leading to a delay in reporting to a qualified doctor.

Elzawawy et al. (2008) clarify Breast cancer problems are multi complex. Hence, there is no one single cause for the delay in seeking consultation. However, the main cause for delay is Fear of the socioeconomic consequences of the diagnosis of cancer, fear of therapy (chemo therapy) fears of pain and death and fear of disfigurement and mastectomy.

Rauscher et al. (2010) clarify Longer patient delay has been associated with low socioeconomic status, low income and low educated.

Rauscher et al. (2010) that married women and those with a negative family history of breast cancer waited longer than others before seeking care, Delay was associated with: older age, being married, lower income, unemployed women ,less education, place of residence (small cities), negative family history of breast cancer, belief in the fatality of breast cancer, lack of access to healthcare services, lack of knowledge of breast cancer symptoms, and denying the importance of breast self-examination. The main reasons given for the delay were: lack of knowledge regarding the necessity of such a visit, fear, negligence, lack of access to physicians, and poverty.

Mclafferty et al. (2010) clarify Lack of transportation, long distances and travel times, and other spatial barriers reduce opportunities for early breast cancer detection. In the Arab world, culture and religion play a major role in facilitating or hindering screening and early detection of breast cancer (Elobaid, 2014).

2.6.2 Health characteristics and patient delay

Elobaid et al. (2014); Innos et al. (2013); Burgess et al. (1998) Clarify the risk of prolonged delay of breast cancer diagnosis was significantly associated with symptoms other than painless breast lump or breast pain.

Stapleton et al. (2011) Pain is a very common symptom of any disease that draws attention to the site of the disease. In case of breast cancer, pain is most likely to occur in case of large tumors or ulceration, both of which are indicative of late-stage disease. In settings with low screening or early detection, lack of pain will delay a patient's attention toward a growing tumor and delay the process of. A history of past benign breast problems became associated with prolonged patient delay (Rauscher et al., 2010).

2.6.3 Health seeking behavior and patient delay

the results of lack of awareness about breast cancer either the knowledge of breast cancer symptoms or attitudes towards help-seeking or both, taken together increased delay time for the diagnosis of breast cancer (Nurleli et al., 2014; Montazeri et al., 2008; Gilani et al., 2010).

Innos et al. (2013) Clarify the risk of prolonged delay of breast cancer diagnosis was significantly associated with no history of mammograms (OR 1.83, 95% CI 1.13–2.95), having received no information on breast cancer during past year (OR 1.77, 95% CI 1.05–2.99), and previous benign breast problems (OR 1.65, 95% CI 1.01–2.67).

2.7 Reasons which make it difficult for the health care provider to an early diagnosis

Many studies discuss the patient delay factors, however, provider delay from diagnosis to start of treatment has not been fully examined. Delays in the diagnosis process, referral of women after diagnosis or delay in treatment initiation is likely to result in tumor progression and poor prognosis (Arndt et al., 2003).

In a study to assess factor associated with provider delay. study conclude In univariate analysis, delay was significantly associated with higher parity ($P < 0.05$), early age at first birth ($P < 0.01$), previous breast symptoms ($P < 0.01$), first consultation at a general health care center ($P < 0.05$),first consultation with a doctor rather than another type of health care worker ($P < 0.05$), inconclusive initial diagnosis ($P < 0.05$), longer distance to hospital ($P < 0.05$), longer travel time to hospital ($P < 0.01$), and higher number of consultations with a surgeon before diagnosis ($P < 0.01$)(Poum et al., 2014).

Goncalves et al. (2014) reported at least a barrier in the trajectory of care for breast cancer. The organizational and health services barriers, were the most reported in the periods of investigation and treatment of breast cancer. the barriers should be considered in public health policies and programs for the control of breast cancer.

The early diagnosis and determination of the exact size of the tumor before surgery is important in choosing a therapy plan. The decision on the therapy of invasive breast cancer depends on several factors such as cancer stage, tumor size and type, pathological and cytological status of the tumor, the patient's opinion, the presence or absence of estrogen and progesterone receptors in the cytoplasm of tumor cells and so on (Otaghvar et al., 2015).

Burgess et al. (1998) Clarify Presenting women with breast cancer to the GP with a breast symptom that did not include a lump independently predicted general practitioner delay.

Delay in diagnosis of breast cancer is the most common clinical scenario resulting in malpractice litigation. Tartter et al. (1999) clarify Physician delay in the diagnosis of breast cancer is common, and patients with delay are similar to patients without delay, the consequences of physician delay in terms of stage at diagnosis, treatment and outcome were not statistically significant.

The one reason for late stage of breast cancer, is the absence of the proportion women who obtain screening mammography. Taplin et al. (2002) conducted this study among seven health care plans participating in the Cancer Research Network Among all screening women, the odds of having late-stage cancer were higher among women with an absence of screening (OR _ 2.17, 95% CI _ 1.84 to 2.56; *P*<.001). Among case patients, women were more likely to being the absence-of-screening group if they were aged 75 years or older (OR _ 2.77, 95% CI _ 2.10 to 3.65), unmarried (OR_ 1.78, 95% CI _ 1.41 to 2.24), or without a family history of breast cancer (OR _ 1.84, 95% CI _ 1.45 to 2.34). A higher proportion of women from census blocks with less education (58.5% versus 49.4%; *P* _ .003) or lower median annual income (54.4% versus 42.9%; *P* _ .004). The study also concluded to reduce late-stage breast cancer occurrence, reaching unscreened women, including elderly, unmarried, low-income, and less educated women.

Jassem et al. (2013) conducted a study among 6588 female breast cancer patients from 12 countries were surveyed, based on a questionnaire survey conducted in 2011. The majority of patients were aged 40–69 years. The most common first sign of BC detected by self-examination was a breast lump (>65% in all countries). Less frequent symptoms included breast pain, nipple or skin changes and nipple discharge. Several studies reported, diagnosis delays in the range of 3–6months between the onset of symptoms and the start of treatment had a significantly adverse impact on survival. In this study delay in medical advice and diagnosis of breast cancer remains a serious problem and breast health awareness and education may positively impact early detection, diagnosis and treatment. The study recommended identifying groups of women with an increased risk of a delay and building programs that promote timely access to care.

Arndt et al. (2003) conducted a study among Germany breast cancer women to assess provider delay. Provider delay was defined as the duration from first consultation of index disease until start of treatment. In this study, it was found a median delay of 15 days between first consultation and onset of treatment. Provider delay over 3 months was found in 11% of all breast cancer cases and was associated with patient characteristics, higher education (odds ratio_ 2.6; 95% confidence interval, 1.3 to 5.4), full-time employment (OR _ 2.5; 95% CI, 1.1 to 5.5), family history of breast cancer (OR _ 2.8; 95% CI, 1.2 to 6.2), and presenting with a non–breast symptom (OR _ 4.3; 95% CI, 1.7 to 10.9).

2.8 Diagnosis delay and tumor stage

The impact of breast cancer delay on survival and clinical staging, differs on study conclusion. may be due to differing sample characteristics including patients in all clinical stages or only patients with specific staging cancer, differences in the delay interval studied (patient, diagnostic, treatment, provider, total delay or different combinations, differences in time periods used to define delay e.g. 1, 2, 3, 6 months (Saldana, 2009).

In the same study which was conducted on 200 Libyan female breast cancer, the study also conclude late clinical stage of breast cancer was found in 65.5% of all patients and it tended to be more frequent among women with diagnosis delay >6 months (89.3%) than among women who had diagnosed < 3 months after onset of symptoms (23%; $p < 0.0001$). Diagnosis delay was significantly associated with large tumor size (T3 and T4; $p < 0.0001$) and with positive lymph nodes (N2, N3; $P < 0.0001$). 23 patients presented with metastasis at time of diagnosis, 91.3% of those had diagnosis delay >6 months (Ermiah et al., 2012).

In a study conducted in turkey breast cancer women to identify factors affecting the total delay time (TDT) in Turkish BC patients, 1031 patients with BC were surveyed. The time between discovering the first symptom and signing up for the first medical visit (patient delay time; PDT) and the time between the first medical visit and the start of therapy (system delay time; SDT). The relationship between TDT and cancer progression indicators (tumor size, nodal spread and metastasis) was analyzed. Findings showed that for all three indicators there were statistically significant differences ($P < 0.001$) in mean TDT depending on how advanced the symptoms were. Specifically, longer diagnostic times were associated with larger tumor sizes, affected lymph nodes and metastasis (Ozmen et al., 2014).

Montazeri et al. (2003) conducted a study in Tehran Iran to examine the extent of patient delay and associated factors in the presentation of breast cancer. The study concludes a Significant association were found between delay presentation and the late stage disease (P = 0.01) and bigger tumor size (P = 0.004).

variables	≤ 3 months	> 3 months	P
	No. (%)	No. (%)	
Stage of disease (n = 165)			
I and II	84 (67.8)	19 (46.3)	
III and IV	40 (32.2)	22 (53.7))	
	$\chi^2 = 6.02$, df = 1		0.01
Tumor size (n = 170)			
< 2 cm	19 (15.1)	2 (4.5)	
2–5 cm	74 (58.7)	19 (43.2)	
≥ 5 cm	33 (26.2)	23 (52.3)	
	$\chi^2 = 11.1$, df = 2		0.004
Nodal involvement (n = 165)			
No	36 (29.0)	10 (24.4)	
Yes	88 (71.0)	31 (75.6)	
	$\chi^2 = 0.33$, df = 1		0.56

Table 2.2 Association between Iranian patients delay diagnosis and stage

2.8.1 Staging process

National Cancer Institute in 2009 defined staging as the process where breast cancer spread within or to other parts of the body.

• Early breast cancer
    - Stage 0: Carcinoma in situ or disease that has not invaded the basement membrane.
    - Stage I: Small primary tumor without lymph node involvement.
    - Stage II: Involvement of regional lymph nodes.

• Locally advanced breast cancer
    - Stage III: Usually a large tumor with extensive nodal involvement in which node or tumor is fixed to the chest wall; also includes inflammatory breast cancer, which is rapidly progressive.

• Advanced or metastatic breast cancer
    - Stage IV: Metastases in organs distant from the primary tumor.

2.8.2 Stages and survival rate

American Cancer Society, (2014) clarify that Stages and survival of breast cancer The five-year survival rate can be calculated. Based on the prognostic factors the survival rate increases or decreases.

Stage	Five years relative survival rate
0	100%
I	100%
IIA	92%
IIB	81%
IIIA	67%
IIIB	54%
IV	20%

Table 2.3 Stages and survival of breast cancer according ACS

CHAPTER THREE

Conceptual framework

3.1 introduction

In this chapter the study major definition, theoretical framework, and study conceptual framework will be presented.

3.2 Breast cancer definition:

Breast cancer is a malignant (cancer) tumor that starts in the cells of the breast. It is found mostly in women, but men can get breast cancer (American cancer society,2014). Breast cancer occurs when malignant tumors develop in the breast. These cells can spread by breaking away from the original tumor and entering blood vessels or lymph vessels, which branch into tissues throughout the body (National Breast Cancer Foundation, 2015).

3.3 Diagnosis delay:

Delay in this context is used to describe the waiting time in the diagnostic process , usually delay is divided into patient and provider delay (Facione,1993) 14 , The full period of delay usually refers to total delay and includes the period from first symptoms until the start of treatment.

Delay is often defined and measured in several different ways, Pack and Gallo (1938) originally defined two main types of delay. (1) Patient delay and (2) Provider delay. Patient delay is defined as the time elapsed from the discovery of symptom by the patient to first medical consultation m, three months or more elapsed time between discovery of symptoms and a visit to a physician. Provider delay is defined as more than one month between the first medical consultation and the initiation of definitive treatment, Provider delay, sometimes referred to as system or clinical delay.

Breast cancer delay or total delay is defined as “more than three months between symptom discovery by the patient and the beginning of definitive treatment (Pack & Gallo, 1938) Finally, as literature clarify on this topic Diagnostic delay is a variation of patient delay or provider delay or sum of these total delay.

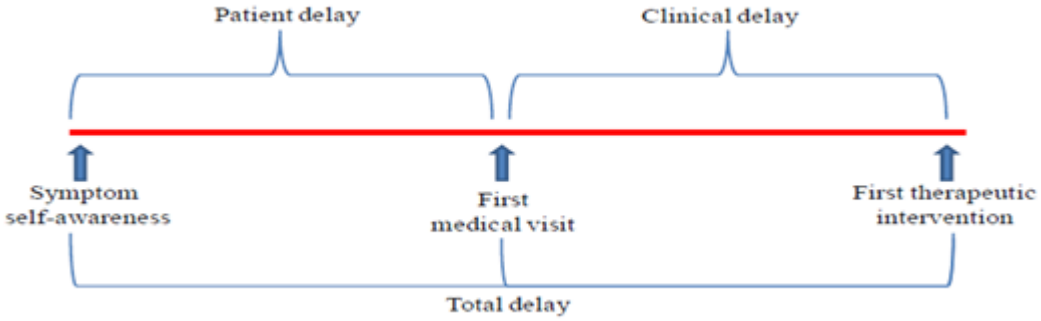

Figure 3.1Types of delay along the breast cancer are continuum (Pack & Gallo, 1938).

3.4 Staging and tumor size: The stage is usually described as the extent of the cancer in the body. It is based on whether the cancer is invasive or non-invasive. The size of the tumor and of how many lymph nodes are involved and if it has spread to other parts of the body. In this study breast cancer stage is one of the important factors to determine the effect of diagnosis delay (American Cancer Society. 2014). Also stages of cancer have been categorized into two groups, Early Stage (I & II) and Late Stage (III & IV) (Breast cancer organization 2012).

3.5 Stage and Delay

In one reason for studying delay to know the effects on breast cancer stage at diagnosis. all; patient delay, provider delay, total delay over three months are associated with poor survival and worse prognosis (Arndt et al., 2002; Gullatte et al., 2006; Partridge et al, 2012; Ermiah et al., 2012).

3.6 Theoretical Framework of the study

The Health Belief model formed the theoretical basis for this study.

3.6.1 The Health Belief Model (Wikipedia. 2016)

One can define "The Health Belief Model" is a model which assumes that people who dread diseases and so the health actions are motivated by the degree of the perceived fear or threat and the estimated fear decreased action. This possible decrease prevails over both the physical and the physiological barriers and takes action to enable participation in productive health actions. In sum, it stresses the hypotheses of a health belief model. It includes and uses four concepts. The chart above may facilitate the concepts.

Perceived susceptibility: This is obvious with women who could be at risk of developing breast cancer and that motivates them to run breast screening. When women perceived that they might be subject to breast cancer, they are expected to take up early breast detection in the event that they suspected any breast changes.

Perceived severity: This is the women's attitude on the gravity of developing fatal breast cancer. Women would change their health behavior and take up breast early detection and take advice from the health provider depending on how serious they consider the consequences of developing deadly breast cancer.

Perceived benefits: This is the women's estimation of the efficacy of early breast diagnosis as a procedure of reducing the effects of later stage of breast cancer. Women would early seek help for breast cancer when they are sure that early diagnosis would be viable and helpful.

Perceived barrier: This is the women's belief of the physical and psychological cost of running an early breast diagnosis against not taking it up. These comprised the physical, psychosocial, economic and demographic variables that would inhibit breast early diagnosis acceptance.

Cues to action: The woman's own integrity could internally drive her to accept early breast diagnosis to lessen risks of developing lethal breast cancer**.** Outer factors like media ads, awareness campaigns and posters would apt the women to take up early diagnosis to enable women to overcome the psychosocial, demographic and physical barriers and bring about early diagnosis approval.

This study assumes this model because it explains certain health behavior; it has also helps to escort the search for "why" these behaviors arise and to plug for possible change. Using this structure, change plans that can be intended such as developing messages that are possible to convince women to make healthy decisions. Using the HBM, messages that are suitable to health education for breast self-examination and early diagnosis other positive behavior change can be developed.

3.7 Conceptual Framework of the Study

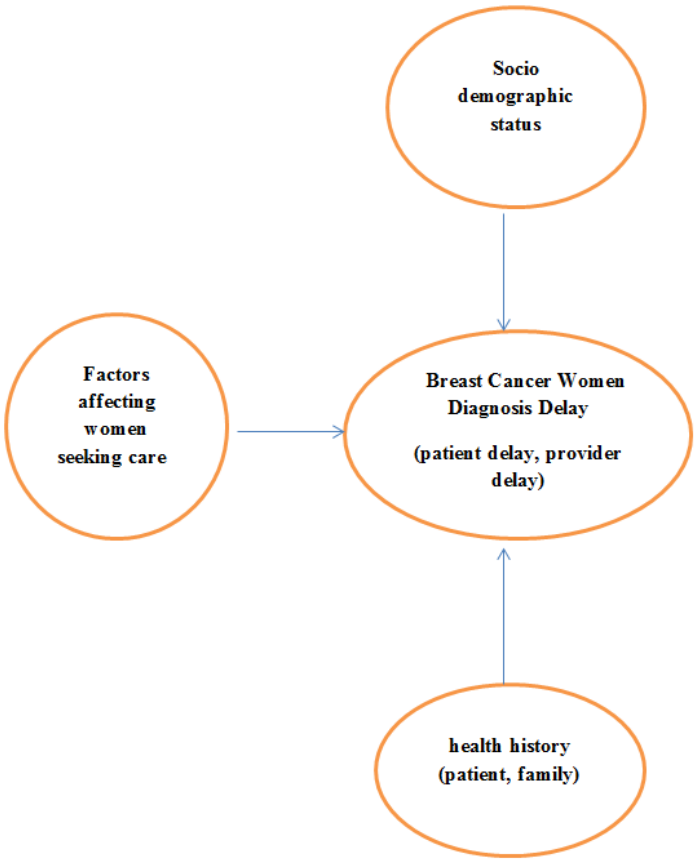

Figure 3.2: Study conceptual framework (self-developed)

3.8 Socio demographic status

To investigate the socio demographic aspect we have to take into consideration some important factors such as the place of residence; rural or urban .In a study conducted in Egypt to determine the breast cancer survival time and explore the association between the breast cancer survival and socio-demographic of diagnosis in El-Minia Governorate, the study shows a statistically significant relation between breast cancer survival and lower education and occupation with low income and with a residence in rural areas (Seedhom and Kamal, 2011).

Life satisfaction may have buffering effect on delay in seeking medical help for breast cancer, so high level satisfaction may be associated with shorter delay and low life satisfaction with longer delay (Ruddy et al., 2014).

The conflicting finding about the influence of age on delay. Some of studies suggest that younger women more likely to delay than older women (Gnerlich et al., 2009).
It is likely that younger women fear that her body image may distort as a result of surgery to remove her breast or part of it. Consequently, they postpone early diagnosis.

On the other hand, most of studies reported that older women delayed seeking help significantly longer (Partridge et al., 2012; Macleod et al.,2009). Older women may attribute their breast symptoms due to physiological change related to aging process, or nit possible older women interpreted that due to medical problem such as chronic disease. Poorer knowledge of symptoms and risks among older women may help to explain the strong association between older age and delay in help-seeking (Grunfeld et al., 2002).

Some study explores the relation of education women and delay of breast cancer diagnosis (Marcus et al., 2013) the study reported education women less likely to delay. It possible educated women more health awareness, and better informed about breast symptoms.

Some study explores the relation of marital status and delay, the study revealed widowed and divorced women had a higher risk of delay. Perhaps one might argue that this could be explained by the fact that widowed and divorced women do not have enough motivation to seek help or care about themselves and lack support (Montazeri et al., 2003).

The financial status plays a decisive role in seeking health care. Many studies confirm that low-income women are more likely to wait a longer period of time following the onset of breast cancer symptoms before seeking medical treatment (Ruddy etal., 2014).
study clarify that cost and not having a health insurance prevented women from performing breast cancer screening or early diagnosis B.C in Turkey, Jordan, Israel and Iraq (Donnelly et al., 2013).

Altaf et al. (2011) clarify the factors responsible for late presentation of breast cancer revealed that most cases of breast cancer presented in advanced stage probably due to poor economic status, illiteracy and negligence by patients or their family members and general practitioners.

3.9 Family health history. Patient health history. Using of screening method.

Meechan et al. (2002) reported that having family history with breast cancer was associated with shorter delay, may be due to fear from seeing family member suffering breast cancer. Memon et al. (2013) reported that the Most common reason for patient's delay in diagnosis of breast carcinoma is negative family history of breast cancer and vague attribution of the symptoms.

The International Agency for Research on Cancer (IARC, 2012) concluded that the 25% reduction in mortality seen in the trials of mammographic screening and implies a reduction in breast cancer mortality of about 35% for women who are screened regularly.

Several research has reported that previous general help- seeking habit is significant associated with decreased delay in seeking help, when the actual breast symptoms occur (Montazeri et al., 2008)

In addition, a number of studies have shown the relationship between shorter delay and regular practices of self- examination, and mammogram screening (Naroozi and Tahmasebi, 2011; Weller and Campell, 2009) prospectively. These studies show that most women are not taking up breast cancer screening due to high illiteracy level and lack of knowledge about vital issues related to breast cancer and prevention measures. increasing the time interval of periodic mammography diminished the mortality reduction by allowing undetected

growth of interval cancers. Increasing the screening interval of women in their forties from annual to every 2 years or to every 3 years would diminish mortality reduction rates from 36% to 18% and to 4%, respectively (Tabar, 1996)

3.10 Factors affecting women seeking care

3.10.1 Symptoms of BC

One of the important factors affecting help seeking is to identify the symptoms variation of breast cancer. The nature of symptoms with lump or without it is important and affects the proper diagnosis in the right time. Meechan et al. (2003) clarifies that women who experience a breast lump are less likely to delay than women who experience other breast symptoms such as nipple discharge or a change in shape of the breast.

Some women interpret their symptoms to breast disease other than breast cancer, and these symptoms would go away, women initially tended to evaluate and attribute breast symptoms as a non-serious cause as seen in other types of cancer (Khakbazan et al., 2014).

In a study conducted among Iranian women to know the causes of delay in seeking treatment in patients with breast cancer the study suggests that women and even physicians need further information about breast cancer symptoms. Women need encouragement to seek medical advice when they encounter suspicious symptoms (Rastad et al., 2002). Knowledge of breast cancer symptoms play an important role in this point.

It was reported by Norsa'adah et al., (2011) that Perception of the seriousness of a symptom of breast cancer is dependent upon the first symptom and how fast the symptom changes and multiplies

3.10.2 Emotional response

Women with breast symptoms have feeling with negative emotion such as fear and anxiety Fear of breast cancer is variously described as a facilitator or mostly it can be a barrier to seek medical advice. some studies stress that fear of breast cancer detection, fear of abandonment by spouse, fear of diagnosis, fear of mastectomy, pain mammography, fear of radiation, fear of disease, or fear of hospitalization and/or surgery have been reported as

barriers (Consedine et al., 2004; Jones et al., 2004). In addition to other factors such as shyness, embarrassment or thinking that the symptoms are not serious, studies have shown that it may be cause of the delay of an early diagnosis (Altwalbeh et al., 2015).
The impact of various types of fear on the help seeking is not entirely clear, perceived seriousness of the symptom and fear about the consequences of delay such as the symptoms become worse or fear of death, this motivated woman to seek help (Khakbazan et al., 2014).

3.10.3 Belief and knowledge

The degree of belief about cancer, early detection, and early treatment are important for to improve prognosis. This varies from community to another. In the Arab country cancer is believed to be a stigma, both men and women who often try to conceal their diagnosis and avoid discussing it. If cancer is discussed, it often receives a label of "that disease " (Hazboun and Glennon, 2011). It is reported by Magrath, (2010) that an unknown number of patients in LMIC with overt cancer remain undiagnosed and untreated for various reasons ranging from wrong beliefs about the causes of cancer (e.g., evil spirits) and consequent stigmata, especially with genital cancers. Many studies clarify that there is a strong association between lower education and delay to seek health care. Educated people who are high school graduates or have completed higher levels of education have more control of their own healthcare decisions and seek health care earlier than people with lower education levels (Montazerietal, 2003).

Seedhom and Kamal, (2011) Clarify that education may result in a higher degree of health awareness, better perception of breast cancer, related symptoms. All will result in less delay in seeking medical care.

In a study conducted among breast cancer patients in the UK to assess knowledge about breast cancer and preventive measures, the study revealed that most patients were unfamiliar with the subject of cancer. They expressed lack of knowledge of cancer as a disease and its symptoms. They identified a painless lump in the breast as sign of abnormality, but not cancer. They also did not know any non-lump breast symptoms (Karbanetal, 2011). Lack of knowledge about breast cancer was mentioned as an important factor delay in Iran (Montezeri et al., 2003).

3.10.4 Cultural dimension

Nobody can overlock the cultural values which play a large role in seeking health care. Many women tend to keep their condition secret and thus their cancer may remain undiagnosed especially in the Arab countries. One can argue that the Middle Eastern Arab culture affects women's behavior by stating that Arab women have restricted access to health information outside their community because of traditional norms which are taken as a taboo that can't be violated which respects the high value placed on the role of women as mother and homemaker. Cancer is perceived as latent killer that is incurable and cause much suffering pain and fear. The disease was seen as part of one's destiny or god's will and therefore little could be done to change it. In addition, modesty and embarrassment in exposing one's body to strangers, religious practice, and gender preference are cultural barriers to seeking health care (Hazboun and Glennon, 2011).

Ismail et al., 2013 conducted a study among females at Cairo University Hospital to explore the relation to factor that hinder early detection of breast cancer, findings indicate that the one most common factor is denying breast cancer, thinking it is only a simple mass.

Lamptey et al. (2009) clarify Ignorance about breast cancer, fear of mastectomy, use herbal treatment, and perceived hastening of death were reported as among the commonest causes of delay for breast cancer patients.

There are three major socialization blocks in Arab/Muslim culture that could impact the delivery of healthcare significantly. These are the family system, the role of the individual relative to social organization and the assignment of primary gender roles (Hammoud et al., 2005).

Some Arab women believe that they are not at risk from breast cancer. Many of them feel uncomfortable about the idea of telling cancer of the breast by touching them. Cancer about symptoms is often shared only with their family to seek their support, although they would not talk about them with those outside the family. Such women believe it is not wise to keep bad feelings inside. These attitudes affect women's confidence and competence related to breast health practices include, breast self-examination, clinical breast exam and help seeking in the case of any breast symptoms.

3.10.5 Relationship status

Relation status can be important for women with breast cancer .in appositive sense it can provide emotional support, material aid, advice and information, positive feedback, physical assistance. It also enhances the extent of encouragement to go for breast screening, early assessment and diagnosis.

Marital status in women is possible to be a guiding role in influencing the Palestinian women in the early detection of breast cancer, especially in the eastern communities which follow the customs and traditions and the opinion of the partner (the husband) (Hazboun and Glennon, 2011).

To be employed or unemployed is essential to influence the chances of an early detection. Whereas working women have the opportunity to express the symptoms of the disease to their colleagues who may suggest creative ideas to diagnose the disease, such as having early screening which could lead to an early detection. Unemployed women lack this opportunity (Hammoud et al., 2005).

3.10.6 Physician and hospital service

Most cancer in low- and middle-income countries (LMC) are detected at later stages than in high-income countries. It is commonly assumed that this late diagnosis is due to the population's lack of information and to deficient coverage of screening programs (Saldana and Castaneda, 2009).

Health service is an important factor in the study of BC delay. Factors mentioned in previous studies such as the quality of health service, distant residence to the cancer center, administrative barriers to health care, medical error in diagnosis, the miss diagnosis such as mastitis, infections and other condition could lead to a delay to detect the disease and therefore a delay in treatment breast signs or symptoms other than lump. All these together are real problems in perusing early detection. Healthcare providers play an important role as enablers and facilitators for effective utilization of screening techniques and early detection of B.C. Not receiving a recommendation by healthcare provider to perform screening has been found to be a barrier for participation in screening (Azaiza& Cohen, 2006)

CHAPTER FOUR

Methodology

4.1 Introduction in this chapter, research design, study setting, study population, inclusion criteria, sampling method, sample size, Data sources and study tools, questionnaire validation, reliability, piloting, fieldwork techniques, method of data analysis, ethical consideration and study variable.

4.2 Research design

This study adopts a descriptive cross sectional study design, the design was preferred to obtain and investigate the factors affecting BC diagnosis delay among women treated at the BJGH. utilizing the quantitative data methods, targeted women were interviewed from day care ward, oncology ward and outpatient clinics, data about tumor size and cancer staging were collected from medical records.

The advantages of this type of study design are that it is straightforward, relatively inexpensive, and could be conducted quickly. Thus, this type of design facilitated the completion of this study

4.3 Study setting:

BJGH was established in 1908. It is located in Beit Jala city – Southern West Bank. It is a central hospital in the southern West Bank and the only referral hospital for all patients with cancer particularly from that area. It is the first place to be contacted for the diagnosis and treatment of cancer patients.

The oncology ward provides healthcare services for cancer patients including; diagnostic procedures such as; medical imaging, laboratory testing, histopathology and therapeutic care such as surgery and chemotherapy. Also cancer patients come to day care ward for patients when admitted to receive chemotherapy treatment. Cancer patients are followed up in the outpatient oncology clinics.

4.4 Study population

The study population involved all women with confirm breast cancer, at any stage, attending BJGH, who treatment at day care cancer ward or oncology ward, besides women who come to follow –up in outpatient oncology clinic, during the study period.

4.5 Study period

The study was carried out during the period November 2015to May 2016. The questionnaire, the consent form, Ministry of Health approval and permission, and the logistic preparation were all ready by the end of January 2016. Data collection and the study population interviews started in November 2015. Three months later, the number of eligible participants that were included in the study was 194.

4.6 Inclusion criteria

- Any patient women diagnosed with breast cancer of any aged, being treated in day care cancer ward or oncology clinic or admitted to oncology ward during the research period.
- confirm breast cancer diagnosis and is documented in medical record.
- participants consent to participate in the study was required.

4.7 Sampling method and Sample size

There is no official statistics that show the total number of women with breast cancer attending BJGH. When reviewing the annual report of MOH for the years 211-2013 the number of new diagnosed breast cancer cases in west bank was 375 cases, so 60% of the total population all be included in the study as the following:357*60\100= 214 participants will be selected. Those patients have to attend the clinics for follow up or the day care ward for chemo therapy at least once monthly. In addition to cases seen in the oncology department. Therefore, Convenience sampling will be utilized on all breast cancer patients attended BJGH during the study period were included in the study sample. The total number of the study cases was diagnosed by histo- pathological examination was 194 participants.

4.8 Data sources and study tools

4.8.1 Participants medical record

After selecting the study case participant, his medical record was explored to ascertain the TNM classification of each participant.

4.8.2 The Questionnaire

The questionnaire was developed using several previously validated questionnaires. Especially the questionnaire of the study done by faired. (2009) among Jordanian women in the King Hussein Cancer Center. The questionnaire consisted of four parts (Annex 1)

Part 1: the social and demographic characteristics of the patient such as, age, place of residence, educational level, marital status, career and economical and financial situation.

Part 2: is concerned Information related to patient and family health history, and the occurrences of breast screening and periodic follow-up to detect breast cancer. This part suggests question as if any of the family member had ever had breast cancer, if she has complained of abreast lump, if she has run breast self-exam, mammogram or breast clinical exam.

Part 3: is concerned with the initial symptoms of breast cancer, the way it was discovered, the reason of diagnosis delay. This part concentrate on question such as; the first sign which motivates the patient to visit the doctor, the first time visiting the practitioner, the time it takes between the first visit to the practitioner and the final diagnosis confirming the disease through histopathology examination.

Part 4: And lastly, the patients' records were investigated by the researcher to identify the stage of breast cancer for each woman participated in the study. Here the researcher refers to medical record file stored in the computer after taking the permission from the specialist. The researcher concentrated on the following issues to identify; the stage of breast cancer, lymph nodes if affected, the tumor size and finally if cancer is metastases or not

3.9 Questionnaire validation, reliability and piloting

A. Validity

The validation of the questionnaire proceeded in two forms. The first was after the questionnaire has been distributed and has been reviewed by three specialists in the field who provided some comments on the tool. The second form involved the implementation of a pilot study (N=20) to validate the survey using exploratory factor analysis. The Table (2.3) shows the exploratory factor analysis of all the paragraphs of the table (The reasons of patient delay) is statistically significant, enjoying an acceptable degree of validity, and they share together in measuring the associated factors in breast cancer diagnosis.

B. Reliability

In order to check the reliability of study questionnaire a Cronbach's Alpha coefficient test was done on the section of the questionnaire (The reason of patient delay). the result showed 0.93, indicating very good reliability in the study questionnaire.

C. Pilot study

A pilot study for the questionnaire was conducted before collecting the results of the sample. The sample for pilot study will be chosen in the same way we choose the sample for the study as it has been chosen from BJGH. 10% out of 194 breast cancer female will be chosen, 20 subjects will be chosen to have a preliminary test for the questionnaire This helped in checking whether the tool used was reliable and valid. The pilot study is important here to evaluate the questionnaire. The results will clarify the women understanding and the rate of acceptance of the questionnaire.

3.10 Data collection procedure

The data was of two parts; the first part was performed through a constructed questionnaire where the data was collected from interviewed women directly. The questionnaire was carried out by a trained nurse, who was supervised by the study researcher.

The second part was a revision of each target woman's medical records to collect data about staging and tumor size.

In order to minimize recall bias, the study participants were asked to remember the onset of symptoms and the day of first consultation with the help of a calendar and files.

3.11 Method of data analysis

Each participant was identified by a medical serial number. also used this medical serial number to refer to the participant's file stored in the pc to know the staging of the disease for each participant. The data collected was analyzed using the Statistical Package for Social Sciences (IBM SPSS 20). Frequent cheeks were made throughout the process of data entry. Descriptive statistics include means and standard division were used for quantitative data. We use Chi – Square test to determine the association between dependent and independent variables. if the p- value of the test was ≤ 0.05, the association was considered significant at the 0.05 level.

4.12 Ethical consideration

The approval of this study from AL- Quds University – school of public health research committee and Al-Quds University Graduate study committee. Permission was granted from MOH to access the patients and their records and only by the researcher. For the participants; the study goal was explained, privacy and confidentiality was maintained and the women were informed that their participation would be voluntary and their withdrawal from the study at any time would not be a problem.

4.13 Study variable:

A. Dependent variable:
    1. Breast cancer women treated at BJGH.
    2. Diagnosis delay; patient delay and provider delay
    3. Stage of breast cancer

B. Independent variable:

The independent variables for this study were;

1. Socio demographic status (age, place of residence, educational level, Marital Status, age at marriage, occupation, Monthly income)
2. Patient health history, Family health history, Using of screening method.
3. Factors affecting women seeking care (Symptoms of BC, Emotional response, Belief and knowledge, Cultural, Relationship status, Physician and hospital service)

4.13 Limitations of the study

- The study result cannot be generalized to Palestinian women with BC, because the study limited at women who were diagnosed at BJGH.

- Recall bias, especially question related to recall of the duration from onset of symptoms to the first medical visit and question related to patients first visit the doctor to final diagnosis, it may have been wrongly estimated, especially in case with longer delay. And question related to behavior of breast screening, type of initial symptoms.

- Information bias, it could be women provide inaccurate information especially question related to, reasons for delay, some women consider that as privet information.

Chapter Five

The Results

5.1 Introduction

In this chapter, study results will be presented, Study population characteristics will be shown in descriptive analysis. Univariate and multivariate analysis will be presented in this chapter.

5.2 characteristics of participants

Table 5.1 shows that 36.1 % of the study population was age between 46-60 years. Of them, 80.8 % were married and 34.0% their age of marriage was between 18-25 years old. Of the study population, 20.7 % was secondary school, Also, 71.1 % of study population lived in a city. While 91.7 % were housewife and 63.5% had a monthly income less than or equal 1000 NIS.

Table 5.1 Characteristics of participants

		Total N=194	N (%)
Age	≤ 45 years	59	30.4
	46-60years	70	36.1
	≥60 years	65	33.5
Place of residence	City	138	71.1
	Village	51	26.3
	Camp	5	2.6
Governorate	Hebron	136	70.1
	Bethlehem	32	16.5
	central provinces Ramallah. Jarico	22	11.4
	Northern provinces	4	2.0
Educational level	not (reads and writes	19	9.8
	Primary	35	18.1
	Preparatory	40	20.7
	Secondary	30	15.5
	Diploma Average	37	19.2
	bachelor degree or high	32	16.6
Marital Status	Single	8	4.1
	Married	156	80.8
	Divorced	29	15.0
Age at marriage	Widow	92	47.4
	18-25 years	66	34.0
	>25 years	29	14.9
Occupation	Housewife	177	91.7
	Retired	5	2.6
	Employee	11	5.7
Monthly income of the family NIS	<1000	122	63.5
	2000- 1001	37	19.3
	>2000	33	17.2

Table 5.2 The numbers and percentages of participant's chronic diseases.

	Yes		No		Do not know		Total N
	#	%	#	%	#	%	
High blood pressure	**62**	**32.0**	**131**	**67.5**	**1**	**0.5**	**194**
Diabetes	**50**	**25.9**	**143**	**74.1**	**-**	**0.0**	**193**
Asthma	**23**	**11.9**	**169**	**87.6**	**1**	**0.5**	**193**
Any type of allergies	**19**	**9.8**	**175**	**90.2**	**-**	**0.0**	**194**
Chronic arthritis or acute	**20**	**10.4**	**173**	**89.6**	**-**	**0.0**	**194**
Digestive Disease	**13**	**6.7**	**180**	**93.3**	**-**	**0.0**	**193**
Cardiovascular disease	**13**	**6.7**	**180**	**93.3**	**-**	**0.0**	**193**
Self-immune system diseases. (Such as systemic lupus erythematous, rheumatic (arthritis, etc.	**21**	**10.9**	**171**	**88.6**	**1**	**0.5**	**193**
Recurrent infections	**27**	**14.0**	**164**	**85.0**	**2**	**1.0**	**193**
Neurological or psychiatric disease	**22**	**11.5**	**167**	**87.0**	**3**	**1.6**	**192**

The table above shows that (62) patients have hypertension, and (50) patients have diabetes, and (23) have asthma, and (19) have various types of allergy, and (20) of chronic or cute arthritis (13) have digestive tract diseases, and (13) of cardiovascular disease, (21) suffer from the self-immune diseases, and (27) of repetitive infectious diseases, and (22) have neurological or psychological diseases.

Table 5.3 Medical history of patients and their families.

	Yes		No		Do not know		Total N
	#	%	#	%	#	%	
In the period before the discovery of the disease have you had the presence of mass, fibrous bags, milky secretions or inflammation in the breast?	176	90.7	18	9.3	-	-	194
During the five years preceding the discovery of the cancer have you visited one of the doctors / physicians in order to carry out comprehensive checks to your body	66	34.0	128	66.0	-	-	194
Is there anyone of the family members (mother, sister) has or had breast cancer?	33	17.1	160	82.9	-	-	193
Is there anyone of the relatives (Aunt, aunt, grandmother, uncle girl / H, girl Khal / e) suffering from breast cancer?	23	11.9	171	88.1	-	0	194
Is there anybody of the family members or relatives who suffers from any other type of cancer.	43	22.3	150	77.7	-	0	193

The data in the above table shows that the (176) of the women were suffering from a mass or fibrous bags or secretions, or inflammation of the breast, and (66) of the cases visit the doctor to do a comprehensive check-up for their bodies during the past five years, and (33) show that their mothers or sisters have /had breast cancer, and the results indicate that the (23) have it in their relatives and (43) have relatives who have grades cancer of different types and levels.

Table 5.4 Usages of breast self- examination(BSE)

	Yes		No	
	#	%	#	%
Before the diagnosis of the disease you have, do you know how to perform a breast self-examination?	79	40.7	115	59.3

The data in the above table shows that the (79) cases only know how to BSE and that equals (40.7%) of the cases, compared with 115 cases who does not know about BSE, the following table shows the source of the patient's information and knowledge of BSE.

Table 5.4.1 The source of information about BSE.

	N	%
Awareness provided by the medical staff	50	63.3
Online	6	7.6
Television	8	10.1
Family members	10	12.6
Otherwise,	5	6.3
Total N	79	100

The previous table shows that 50 of the cases have received the knowledge of how to perform BSE from the medical staff, and (6) from the internet, and (8) from television, (10) from one of family members, (5) various sources. This shows the importance and the role of medical staff in educating women about cancer, also it shows the little the role of the family's in raising awareness about breast cancer.

Table 5.4.2 The numbers and percentages of participants who took up BSE.

	Yes		No	
	#	%	#	%
Before the diagnosis of the disease you have, have you ever thought of Breast self-examination?	67	34.5	127	65.5

The table shows that (67) cases carried out self-examination of the breast, a rate of (23.3%), before the discovery of the disease, the disease. The following table shows how breast screening is done.

Table 5.4.3The number of times that have made BSE.

	N	%
I run breast self-examination once a month.	35	52.2
.I run breast self-examination of three to four times a year.	12	17.9
.I run breast self-examination once a year.	10	14.9
Others	10	14.9
Total N	67	100.0

The above table shows that the (35) of the cases run BSE once a month. We can also see that (12) of women have BSE three to four times a year, (10) of women have BSE once a year, (10) others.

Table 5.5 Numbers and percentages of participants with previous knowledge about mammograms.

	Yes		No		Do not know	
	#	%	#	%	#	%
Before the diagnosis of the disease you have, have you known what a mammogram is?	21	10.8	172	88.7	1	0.5

The above table shows that the (21) cases have knowledge about mammography before the discovery of the disease a rate of (10.8%). This a small percentage. Work should be done to raise awareness among women about mammography for breast.

Table 5.5.1 **Numbers and percentages of who performed a mammogram.**

	Yes		No	
	#	%	#	%
Before the diagnosis of the disease you have, have you ever performed a mammogram?	20	10.3	174	89.7

The table shows that the (20) cases only have mammography of the breast which equals (10.3%) of women with cancer. The following table shows the number of times women of breast cancer have mammography before the discovery of the disease.

Table 5.5.2 Numbers and percentages of times that participants took up mammograms.

	N	%
I took up mammogram everyone years.	16	80.0
I took up mammogram every two years.	2	10.0
I took up mammogram once every three to four years.	2	10.0
Total N	20	100.0

It is clear to us through the data in the table above that (80.0%) of cases is doing a mimeograph of the breast once a year.

Table 5.6 Numbers and percentages of clinical breast examination(CBE).

	Yes		No		Total N
	#	%	#	%	
Before the diagnosis of the disease you have, have you ever visited the doctor / before you run clinical breast examination?	7	3.6	186	96.4	193

The table shows that (7) cases visit the doctor to have clinical examination of the breast which equals (3.6%). The following table shows the number of times they visit the doctor.

Table 5.6.1 Number of times participants took up CBE

	N	%
I Perform the clinical breast examination once a year	5	71.4
Other	2	28.6
Total N	7	100.0

The table shows that the (5) cases only visit the doctor to have clinical examination once a year. One case visits the doctor once in two or three years or more.

Table 5.7 The marks that appeared which urges you to search for health advice. (Warning symptoms of breast cancer).

	Yes		No		Do not know		Total N
	#	%	#	%	#	%	
Does the emergence of an un painful lump in one of breasts urge you to visit the doctor?	175	90.2	19	9.8	-	0	194
Were there changes and problems in the nipple?	91	47.2	102	52.8	-	0	193
Was there a pain in the breast?	65	33.9	126	65.6	1	0.5	192
Was there a change in the shape and size of breast?	34	17.5	160	82.5	-	0	194
Was there a enlargement of the lymph nodes under the armpit?	35	18.2	156	81.3	1	0.5	192
Was there a strange nature of secretions from the breast	40	20.8	152	79.2	-	0	192
Was there a swilling in the breast itself?	53	29.3	127	70.2	1	0.5	181

The data shows that (175) cases appeared to have a painless mass in one breast. The lower marks were such a change in breast shape and size, a rate of 29.3%.

Table 5.7.1 The initial symptoms the participants have noticed

	N	%
Un painful lump in one of breasts	132	71.0
Nipple changes	19	10.2
Breast pain	17	9.2
lymph nodes enlargements	9	4.8
Others	9	4.8
Total N	186	100.0

The table above shows that the most important first symptoms of the disease was the emergence of a painless mass in one of the breasts 71%.

Table 5.7.2 Who was the first to discover the symptoms that participants have mentioned in the previous answers, (i.e. the first sign of breast cancer you have)

	N	%
(the patient himself)	129	66.5
The physician / doctor	51	26.3
Through X-ray (mammography) and without conversing with the doctor	14	7.2
Total N	194	100.0

The table above shows that (66.5%) of the women figured out the signs of the disease themselves, and (26.3%) detected signs of the disease by visiting a doctor. And (7.2%) detected only signs of the disease through the x-ray images without conversion from a doctor.

Table 5. 7.3 Upon the emergence of these previous symptoms you talked to.

	N	%
I have not spoken to anyone.	96	50.0
I told my husband.	69	35.9
I told a family member.	23	12.0
Others	4	2.1
Total N	192	100.0

The data shows that (50.0%) of the cases didn't tell anybody about these signs and (35.9%) told their husbands about these signs, and (12.0%) told one of the family members.

Table 5.8 The intervals between the firsts symptoms and visiting the doctor.

	N	%
≤ 1 months	89	45.9
≤3 months, > 1months	33	17.0
> 3 months	72	37.1
Total N	194	100.0

The table above shows that (45.9%) of the cases visit the doctor in less than a month period since the emergence of symptoms of breast cancer, and that (17.0%) during the period of between one month and three months, and (37.1%) visit the doctor after more than three months from the emergence of signs of illness.

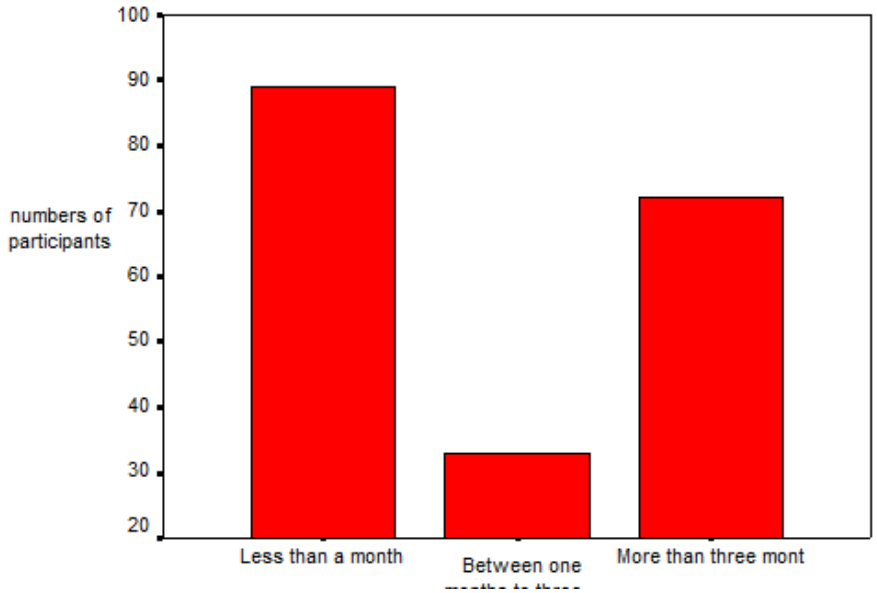

Figure 5.1Time interval between the first symptoms to first seek medical advice

Table 5.9 The reasons for the delay to visit a doctor since the onset of symptoms.

	Mean	S.deve ation	%
Did not take things seriously, believing that these symptoms will go away?	4.90	0.417	98.0
The embarrassment of visiting the doctor and breast examination	4.71	0.846	94.2
Do not receive support from the spouse	4.65	0.715	93.0
The economic situation of the family does not allow it	4.57	0.853	91.4

Fear of diagnosis of breast cancer	4.54	0.821	90.8
Fear of surgery	4.43	0.990	88.6
The impact on status as a female or spouse, loss of breast or part of it	4.17	1.021	83.4
one of the family members suffering from breast cancer and I do not want to I suffer like her	4.03	0.919	80.6
Belief that the therapy available for breast cancer leads to rapid death	3.99	0.896	79.8
Do not receive support from the family	3.89	0.912	77.8
Seeking to use alternative therapies such as herbal medicine	3.86	0.924	77.2
Fear of mastectomy or part thereof	3.71	0.863	74.2
The refusal to go to a doctor and leaving to fate as whatever the outcome of breast cancer	3.64	0.737	72.8
The lack of adequate time	3.64	0.612	72.8
The lack of a woman doctor or a specialist who can run breast examination?	3.53	0.627	70.6

The table shows that the most important reason for the delay in the visit to the doctor was not taking the disease seriously, believing that it will disappear as an arithmetic mean (4.90) with a standard deviation (0.41), then followed by the shame to visit the doctor's and run a breast examination with a mean (4.71) with a standard deviation (0.84), followed by the lack of support from the spouse with a mean (4.65) with a standard deviation (0.71).The comes the economic situation of the family with a mean (4.57) and with a standard deviation (0.85) after that the fear of the diagnosis of the disease with a mean (4:54) with a standard deviation (0.82)Next, comes the lack of a doctor or specialist women for breast screening with a mean (3.53) and with a standard deviation (0.61). Finally comes the lack of time with a mean (3.64) with a standard deviation (0.62).

Table 5.12 Reasons that urged the participants for medical consultation after the delay.

	Yes		No		Do not know		Total N
	#	%	#	%	#	%	
symptoms persist.	163	84.9	27	14.1	2	1.0	192
The feeling of fear that the symptoms of breast cancer may become worse if left untreated.	160	84.2	27	14.2	3	1.6	190
Curiosity if they are the symptoms of breast cancer.	117	62.9	62	33.3	7	3.8	186
Advice from family and relatives.	87	55.1	97	43.7	2	1.3	158
Symptoms become serious.	50	26.5	137	72.5	2	1.1	189
Other reasons / Mention!.....	17	50.0	17	50.0	-	0.0	34

The table above shows that (163) of cases were pushed to visit doctor because of the continuation of symptoms, and (160) cases were pushed because of fear that the symptoms of the disease become worse, and (117) were pushed to visit the doctor because of curiosity as to whether the symptoms are the symptoms of breast cancer, and (87) had been advised by family and relatives to visit the doctor, and (50) of the case visited the doctor after symptoms of the disease become more serious.

Table 5.13 visit one of the doctors / physicians prior to the visit of BJGH.

	Yes	
	#	%
Since the onset of symptoms, you have, did you visit one of the doctors / physicians prior to the visit of Beit Jala Governmental Hospital?	193	100

The table shows that patients had visited the doctor since the emergence of the symptoms of cancer have.

Table 5.13.1 The doctors the patients have reviewed since the onset of symptoms and before visiting BJGH the first time.

	N	%
A general practitioner	32	16.6
A gynecologist	60	31.1
An oncologist	32	16.6
A Surgeon	64	33.2
Others!! Mention!	5	2.6
Total N	193	100.0

The table shows that (16.1%) of the cases had visited a GP once a year, and that the doctor (31.1%) visited (a gynecologist, and (16.6%) visited Oncologist, and (33.2%) visited a doctor surgery, and (2.6%) had visited other doctors.

Table 5.13.2 The doctor's advice before being directed to BJGH.

	N	%
I was asked to have a mammogram	51	26.4
I have been transferred to BJGH / Oncology Clinic, to complete the tests.	132	68.4
I have been transferred to other Hospital to complete the tests.	4	2.1
Being diagnosed as non-breast cancer case, it is only inflammation of the breast (mastitis)	6	3.1
Total N	193	100.0

The table above shows that (26.4%) of the cases were requested to have an x-ray of the breast after the emergence of the first symptom, and (68.4%) were directed to Beit Jala Hospital and (2.1%) were transferred to other hospitals for testing, and that (3.1%) were diagnosed with breast cancer.

Table 5.16 The time took the patient to have an appointment for the oncology clinic

	N	%
Less than a week	186	95.9
Less than a month	7	3.6
More than a month	1	0.5
Total N	194	100.0

5.17 The interval between the first visit and the final diagnosis.

	N	%
≤ 1week	23	11.9
≤ 1month, > 1 weak	80	41.2
>1month	91	46.9
Total N	194	100.0

The table above shows that (11.9%) of the cases took less than a week between the first visit to the doctor and the final diagnosis of the disease, and (41.2%) took less than a month's period, and (46.9%) took them a period more than a month from the first visit and the final diagnosis of the disease.

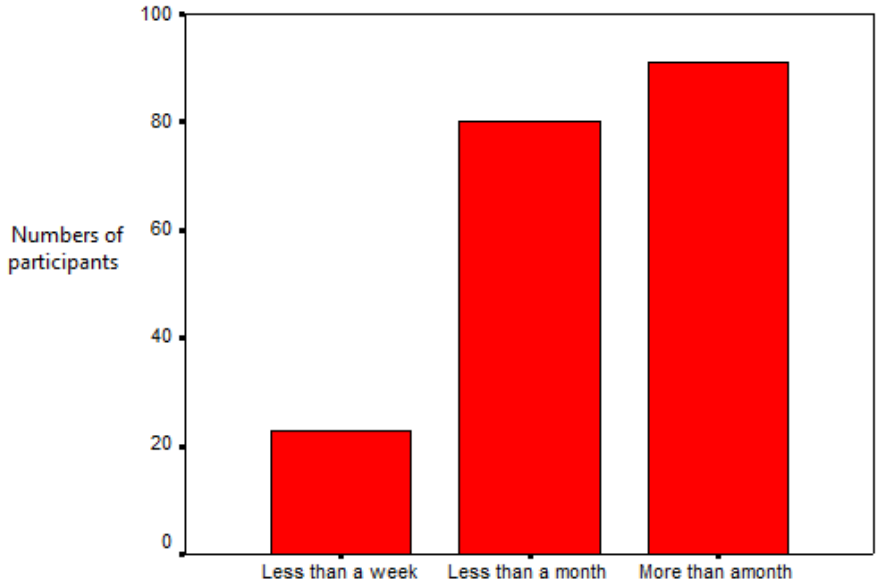

Figure 5.2 Time interval between first visit to final diagnosis

Table 5.18 Total delay includes the period from first symptoms till the confirmation of the B.C to start the treatment (patient and provider delay).

	N	%
≤ 1 months	10	5.2
≤ 3moths, > 1 months	66	34.0
3>	118	60.8
Total N	194	100.0

The table above shows that (5.2%) of the cases have reached the final diagnosis of the disease in less than a month's period from the emergence of symptoms of breast cancer, and it took (34.0%) period of between one month and three months, and (60.8%) have reached the final diagnosis of the disease after more than three months.

Table 5.19The treatment that has undergone since the time was diagnosed as breast cancer.

	Yes		No		Total N
	#	%	#	%	
Mastectomy.	52	98.1	1	1.9	53
Partial mastectomy.	89	100.0	-	0.0	89
Lumpectomy	121	98.4	2	1.6	123
Radiotherapy	136	99.3	1	0.7	137
Chemotherapy.	159	99.4	1	0.6	160
Hormonal therapy.	76	97.4	2	2.3	78
Immunotherapy.	6	85.7	1	14.3	7

Table 5.19.1 Guidance to Palliative Care

	Yes		No		Total N
	#	%	#	%	
Were you guided to the Palliative Care	69	35.8	124	64.2	193

The table above shows that (69) cases have been transferred and guided to Palliative Care.

Table 5.19.2 The place of palliative care

	N	%
Part of the treatment performed in the hospital	36	52.2
Home care (home)	31	44.9
Others	2	2.8
Total N	69	100.0

The table shows that (52.2%) of the cases receive part of the treatment in the hospital, and (44.9%) receive home care, and (1.4%) receive different care, as well (1.4%) receive treatment part in hospital and the other part through homecare.

Table 5.20 Staging and TNM classification of participants

		N	%
Stage	Stage 1	44	23.9
	Stage 2	53	28.8
	Stage 3	49	26.6
	Stage 4	38	20.7
T	T1	52	8.1
	T2	68	36.8
	T3	52	28.1
	T4	13	7.0
N	N0	81	43.8
	N1	48	25.9
	N2	47	25.4
	N3	9	4.9
M	M0	147	79.5
	M1	37	20.0
	MX	1	0.5

The table shows that, 52.7% of cases have Early stage (stage 1and 2), 47.3% of cases have Late stage (stage 3and 4). The study showed that 20% of women with breast cancer have metastasis.

Table 5. 21 The association between socio demographic status and delay to visit a doctor to tell him about those symptoms

		≤ 1 months		≤ 3moths, > 1 months		3months>		Total N		df	P value
		#	%	#	%	#	%	#	%		
Age	≤ 45 years	29	32.6	13	39.4	17	23.6	59	30.4	4	0.010
	46-60years	27	30.3	6	18.2	37	51.4	70	36.1		
	≥60 years	33	37.1	14	42.4	18	25.0	65	33.5		
Place of residence	City	62	69.7	20	60.6	56	77.8	138	71.1	4	0.238
	Village	24	27.0	13	39.4	14	19.4	51	26.3		
	Camp	3	3.4	0	0.0	2	2.8	5	2.6		
Educational level	not (reads and writes	15	16.9	2	6.1	2	2.8	19	9.8	10	0.018
	Primary	13	14.6	4	12.1	18	25.4	35	18.1		
	Preparatory	23	25.8	6	18.2	11	15.5	40	20.7		
	Secondary	13	14.6	7	21.2	10	14.1	30	15.5		
	Diploma Average	10	11.2	7	21.2	20	28.2	37	19.2		
	bachelor degree or high	15	16.9	7	21.2	10	14.1	32	16.6		
Marital Status	Single	4	4.5	1	3.0	3	4.2	8	4.1	4	0.001
	Married	79	88.8	30	90.9	47	66.2	156	80.8		

	Divorced	6	6.7	2	6.1	21	29.6	29	15.0		
Age at marriage	Widow	40	46.5	14	43.8	38	55.1	92	49.2	4	0.301
	18-25 years	36	41.9	11	34.4	19	27.5	66	35.3		
	>25 years	10	11.6	7	21.9	12	17.4	29	15.5		
Occupation	Housewife	80	90.9	31	93.9	66	91.7	177	91.7	4	0.206
	Retired	1	1.1	0	0.0	4	5.6	5	2.6		
	Employee	7	8.0	2	6.1	2	2.8	11	5.7		
Monthly income of the family NIS	<1000	52	59.1	18	56.3	52	72.2	122	63.5	4	0.046
	2000- 1001	14	15.9	9	28.1	14	19.4	37	19.3		
	>2000	22	25.0	5	15.6	6	8.3	33	17.2		

The table indicates that there were no statistically significant differences at the level of ($\alpha \leq 0.05$) in the associated factors in the postponement of the diagnosis of breast cancer with the Palestinian women who are being treated at Beit Jala Governmental Hospital according to variables of (place of residence, age at marriage and profession) and the time of delay since the onset of symptoms and until the doctor's visit, while showing that there are statistically significant differences at the level of ($\alpha \leq 0.05$) in the associated factors in the diagnosis of breast cancer postponement in women by variables (age, education level, marital status, educational level) The time of delay since the onset of symptoms till seeing the doctor.

The differences were according to the age variable in favor of women who are more than 60 years of age, in the category of less than a month and the category between the ages of 2-3 months. The differences were in favor of women whose ages ranged from 46-60 years old in more than 3 months' category, according to the level of education. The differences were also in favor of women who have the preparatory educational level, and with the variable of marital status differences were in favor of married women, and when the variable of income, the differences were in favor of the ladies who have income less than 1,000 shekels.

Table 5. 22 The association between Health history of patients and the delay to visit a doctor to tell him about those symptoms.

		≤ 1 months		≤ 3moths, > 1 months		3 months>		Total N		Df	P value
		#	%	#	%			#	%		
In the period before the discovery of the disease have you had the presence of mass, fibrous bags, milky secretions or inflammation in the breast?	Yes	84	94.4	32	97.0	60	83.3	176	90.7	2	0.022
	No	5	5.6	1	3.0	12	16.7	18	9.3		
During the five years preceding the discovery of the cancer have you visited one of the doctors / physicians in order to carry out comprehensive checks to your body.	Yes	38	42.7	11	33.3	17	23.6	66	34.0	2	0.039
	No	51	57.3	22	66.7	55	76.4	128	66.0		
Is there anyone of the family members (mother, sister) has or had breast cancer	Yes	8	9.1	7	21.2	18	25.0	33	17.1	2	0.023
	No	80	90.9	26	78.8	54	75.0	160	82.9		
Is there anyone of the relatives (Aunt, aunt, grandmother, uncle girl / H, girl Khal / e) suffering ?from breast cancer	Yes	10	11.2	6	18.2	7	9.7	23	11.9	2	0.447
	No	79	88.8	27	81.8	65	90.3	171	88.1		
Is there anybody of the family members or relatives who suffers from .any other type of cancer	Yes	18	20.2	8	24.2	17	23.9	43	22.3	2	0.817
	No	71	79.8	25	75.8	54	76.1	150	77.7		

The table shows that there are statistically significant differences at the level ($\alpha \leq 0.05$) in the associated factors in the delay of the diagnosis of breast cancer in women according to variables (in the phase leading up to the discovery of the disease to the presence of mass, fibrous bags, secretions milky or inflammation in the breast. Did you visit the doctor during the five years preceding the discovery of the cancer in order to carry out comprehensive checks to your body, is there anyone of the family members (mother, sister) suffered breast cancer)? while showing that there are no differences statistically significant at the level of ($\alpha \leq 0.05$) in the associated factors in the postponement of the diagnosis of breast cancer in women by variables (Is there one of the relatives: aunt, grandmother suffered breast cancer.

The differences were in favor of women who have suffered from the presence of mass, fibrous bags, secretions milky or inflammation of the breast. According to visiting the doctor in order to carry out comprehensive checks, the differences were in favor of women who did not see a doctor. As for if one of the family members has /had the disease the differences were in favor of families with none of the members (mother, sister) has suffered from breast cancer.

Table 5. 23 The association between BSE and delay to visit the doctor to tell him about these symptoms.

		≤ 1 months		≤ 3moths, > 1 months		3>		Total N		df	P value
		#	%	#	%	#	%	#	%		
Before the diagnosis of the disease you have, have you ever thought of Breast self-examination	Yes	45	50.6	10	30.3	24	33.3	79	40.7	2	0.035
	No	44	49.4	23	69.7	48	66.7	115	59.3		
Before the diagnosis of the disease you have, have you ever thought of Breast self-examination	Yes	34	38.2	16	48.5	17	23.6	67	34.5	2	0.028
	No	55	61.8	17	51.5	55	76.4	127	65.5		
Before the diagnosis of the disease you have, have you known what a mammogram is?	Yes	8	9.0	4	12.1	9	12.5	21	10.8	2	0.749
	No	81	91.0	29	87.9	63	87.5	173	89.2		
Before the diagnosis of the disease you have, have you ever performed a mammogram	Yes	7	7.9	3	9.1	10	13.9	20	10.3	2	0.444
	No	82	92.1	30	90.9	62	86.1	174	89.7		
Before the diagnosis of the disease you have, have you ever visited the doctor / before you run clinical breast examination	Yes	1	1.1	0	0.0	5	6.9	6	3.1	2	0.057
	No	87	98.9	33	100.0	67	93.1	187	96.9		

The table indicates that there are statistically significant at the level of differences ($\alpha \leq 0.05$) in the associated factors in the diagnosis of breast cancer postponement in women as variables (before the diagnosis of disease. You know how to perform breast self-examination. Before the diagnosis of disease, you have, have you ever performed self-

examination of the breasts), while showing that there were no statistically significant differences at the level of (α≤0.05) in the associated factors in the postponement of the diagnosis of breast cancer in women by variables (usages in breast screening and the time of delay since the onset of symptoms and to till visiting the doctor. The differences were in favor of women with knowledge of breast self-examination, and then the differences were according to women who did not take breast self-examination.

Table 5. 24 The association between staging (TNM) and delay to visit the doctor to tell him about these symptoms.

		≤ 1 months		≤ 3moths, > 1 months		3 months>		Total N		df	P value
		#	%	#	%			#	%		
Stages	Stage 1	42	48.8	1	3.3	1	1.5	44	23.9	6	0.000
	Stage 2	35	40.7	15	50.0	3	4.4	53	28.8		
	Stage 3	7	8.1	10	33.3	32	47.1	49	26.6		
	Stage 4	2	2.3	4	13.3	32	47.1	38	20.7		
T	T1	48	55.8	3	9.7	1	1.5	52	28.1	6	0.000
	T2	30	34.9	19	61.3	19	27.9	68	36.8		
	T3	8	9.3	8	25.8	36	52.9	52	28.1		
	T4	0	0.0	1	3.2	12	17.6	13	7.0		
N	N0	66	76.7	8	25.8	7	10.3	81	43.8	6	0.000
	N1	17	19.8	11	35.5	20	29.4	48	25.9		
	N2	3	3.5	11	35.5	33	48.5	47	25.4		
	N3	0	0.0	1	3.2	8	11.8	9	4.9		
M	M0	85	97.7	26	83.9	38	54.4	149	79.5	2	0.000
	M1	1	2.3	5	16.1	30	45.6	36	20.5		

The data indicates that there are statistically significant differences at the level of (α≤0.05) in the associated factors in the diagnosis of breast cancer in women who postponed by a variable of stage, tumor size, lymph node and metastasis.

Table 5. 25 The association between Warning symptoms of breast cancer and delay to visit the doctor to tell him about these symptoms.

		≤ 1 months		≤ 3moths, > 1 months		3months>		Total N		df	P value
		#	%	#	%			#	%		
Does the emergence of an un painful lump in one of breasts urge your t to visit the doctor?	Yes	84	94.4	32	97.0	59	81.9	175	90.2	2	0.011
	No	5	5.6	1	3.0	13	18.1	19	9.8		
Were there changes and problems in the nipple?	Yes	35	39.3	14	51.5	39	54.9	91	47.2	2	0.125
	No	54	60.7	16	48.5	32	45.1	102	52.8		
Was there a pain in the breast?	Yes	23	26.1	13	39.4	29	40.8	65	33.9	2	0.179
	No	65	73.9	20	60.6	42	59.1	127	66.1		
Was there a change in the shape and size of breast?	Yes	12	13.5	6	18.2	16	22.2	34	17.5	2	0.347
	No	77	86.5	27	81.8	56	77.8	160	82.5		
Was there a enlargement of the lymph nodes under the armpit?	Yes	18	20.5	2	6.3	15	22.2	35	18.7	2	0.244
	No	70	79.5	30	93.8	57	77.8	157	81.3		
Was there a strange nature of secretions from the breast	Yes	18	20.2	7	21.2	15	21.4	40	20.8	2	0.981
	No	71	79.8	26	78.8	55	78.6	152	79.2		
Was there a swilling in the breast itself?	Yes	21	25.6	8	25.0	24	35.8	53	29.3	2	0.148
	No	61	74.4	24	75.0	43	64.2	128	70.7		

The data indicates that there are statistically significant differences at the level ($\alpha \leq 0.05$) in the associated factors in the diagnosis of breast cancer postponement in women as a variable (mass painless appearance in one of the breasts. The differences were in favor of women who appeared to have lumps are painless in one breast.

Table. 26 The association between the first visit to the doctor and staging(TNM).

		≤ 1week		≤ 1month, > 1weak		>1month		Total N		df	P value
		weak	%	#	%			#	%		
Stages	Stage1	9	40.9	23	30.3	12	14.0	44	23.9	6	0.021
	Stage 2	7	31.8	17	22.4	29	33.7	53	28.8		
	Stage 3	6	27.3	20	26.3	23	26.7	49	26.6		
	Stage 4	0	0.0	16	21.1	22	25.6	38	20.7		
M	M0	22	95.5	61	80.3	66	74.7	149	79.5	2	0.096
	M1	0	4.5	15	19.7	21	25.3	36	20.5		

The table indicates that there are statistically significant differences at the level of ($\alpha \leq 0.05$) in the associated factors in the diagnosis of breast cancer in women postponing variables (stage that the disease has been diagnosed in the patient, and the spread of the disease).

CHAPTER SIX

Discussion

6.1 Introduction

The study results are summarized and compared to the results of other studies worldwide. Also, the results are interpreted and discussed. In the final part of the chapter, the study conclusions and recommendations are presented.

6.2 Summary of the results

The study analyzed 194 breast cancer cases registered at BJGH with confirm diagnosis of B.C, the majority of the cases 36.1 % fell between the ages of 46-60 years old, and 33.5% were above 60 years old, and 30.4 % were below 45 years old.
Before the diagnosis of B.C, the study clarifies the low rate of participant women to BSE, Mammography and CBE, 34.5%, 10.3%, 3.7% prospectively.

The majority (45.9%) of symptomatic women consulted within the first month, 17.0% consulted within the first three months a. 37.1% waited for more than three months (patient delay). Provider delay was found in 46.9% of all women participant (over one months). Total delay was found in 60,8% of all women participants (over three months).
The first sign or symptom of cancer was a self-detected 66.5%. breast lump was the most frequent symptom (71%), followed by nipple change and discharge (10.2%), breast pain (10%), lymph node enlargement under the arm pit (4.8%) and other symptoms (4.8%). This Study clarify 71.0% of women participant who have abreast lump as initial signs, these results could indicate that women recognize breast cancer symptoms only a late.

In the present study, the majority of women sought medical advice after identifying the symptoms of BC, most commonly with breast lump (90.2%). Such a high proportion may be explained by the fact that there is no organized breast cancer screening program; nevertheless, it has been established that symptom-based detection of breast cancer is still very important in countries where an organized screening program (Musmar and Shmais,

2010). The most vulnerable group is still not doing it frequently, older women and younger ages, less educated, single, and women from refugee camps need to be reached out to increase their awareness to go for screening mammography. This study clarifies 84.2 % of the women participants did not want to consult a healthcare provider Only after symptoms have become worse, table 5.12 clarify this.

TNM classifications are summarized in table 5.20. Most of the patients (52.7%) had early stage BC (Stages I and II). And the study revealed the high proportion (47.3%) of women BC had advanced-stage (stage III and IV). A strong association between patient's delay, provider's delay and stage at diagnosis are obvious in the study.

Women BC treatment summarized in (table 5. 19) Surgical treatment are wildly among women participants in the study, whereas 52 of women participants have undergone to total mastectomy beside radio and chemotherapy. This study shows just 35.5% of all women participant who guided to palliative care, our study found the palliative therapy it is not included as a part of treatment among B.C women who treated at BJGH.

This study shows that cultural and societal beliefs have a great effect on Palestinian women's attitudes and behaviors towards symptom recognition, and presentation for medical treatment.

Delay in the diagnostic work-up after the first consultation of a physician may arise from patient, provider misdiagnosis, or long waiting times for diagnostic or therapeutic procedures because of the limited capacities in the health care system in BJGH.

6.3 Diagnosis delay or total delay. patient's delay and provider's delay

6.3.1 Patient's delay

As mentioned in the previous study patient's delay (the interval between first detection of symptom to first medical consultation), an interval longer than three months between symptoms discovery by patient to first medical consultation) (Saldana and Castaneda, 2009; Arndt et al., 2002; Norsa'adah et al., 2011; Ermiah et al. 2012; Pineros et al., 2009; Poum et al., 2014).

The study reveals as shown in the table 5.10 the 37.1% of sample delay more than three months from discovered symptoms to see medical consultation, these results in the same line of the study conducted among Jordanian female 32.2%(Abu-Helalah et al., 2016) which is slightly higher compared to the 14 to 19% range observed in developed countries (Freitas and Weller, 2015). Poum et al., (2014) clarify that 17% delayed seeking consultation for longer than 3 months in Thailand. but lower than low income countries such as Uganda (89 %) patients delayed by more than 3 months after noticing symptoms of breast anomaly (Odongo et al., 2015), One explanation for such a difference might relate to the patients delay related behaviors and the social context they live in.

This delay of BC diagnosis lead to worse health outcome and lower overall survival (Kothari &Fentiman, 2003) Delay in seeking medical advice has been established as one of the reasons for increased cancer mortality in developing countries (Pineros etal., 2009).

6.3.2 Provider delay

Provider delay can be defined as the duration from first consultation of index disease until the start of treatment (i.e. delay in confirming diagnosis, delay in surgery and delay in starting adjuvant treatment). In this study, an interval longer than one month is considered provider delay (Pack&Gallo, 1938; Saldaña and Castañeda, 2008).

Our study reveals as shown in the table 5.10, the provider delay over 1 months was found in 46.9% of all breast cancer cases. which is slightly higher compared in Jordan 49.1% (Abu-Helalah et al., 2016), Germany 11% (Arndt et al., 2003). And 42% reported a doctor delay of longer than 1 month in Thailand (Poum et al., 2014). Arndt et al. (2002) clarifies delay diagnosis over one months is associated with more advanced stage among B.C women. Delay of therapy also has impacts on medical burden.

6.3.3 Total Delay

The interval between a patient's first noticing symptoms and starting specific treatment more than three months (Ozmen et al., 2014), this delay has been associated with poorer survival, late stage and tumor progression (Williams, 2015).

In this study the total delay (patient delay and provider delay) is 60.8% from total patient's samples. This study shows that the proportion of delaying is high comparing study

conducted in developing countries such as, Germany 42% of the patients had a TDT (Ozmen et al., 2014).

6.4 Factors related to breast cancer delay

6.4.1 Factors related to patient delay

The most frequent reasons for delay among women with a more than 3-month-delay were summarized in (table 5.9). The main reasons for patient delay found in this study. These findings together with late stage of diagnosis. (98.0%) of women participant delayed medical advice over three months is due to the thought of ignoring the seriousness of a painless lump, women who are not considering symptoms to be important, it is one of the factors that are associated with delay of BC, the previous Literature confirm these result (Ermiah et al., 2012; Pineros et al., 2009; Norsa'adah et al., 2011; Elobaid et al., 2014). When Patients' interpretation of their symptoms as a sign of cancer had an important influence on whether they sought medical help immediately (Odongo et al., 2015). Many studies clarify the evaluation of breast symptoms is based on the pre-existing knowledge, experience, self-education and observation of individuals (Seedhom and Kamal, 2011; Montezeri et al., 2003; Karbanetal, 2011).

The health belief model interprets that when the patient perceived risk and seriousness of BC and this influence the women to seek medical advice. The Model in an attempt to understand women's beliefs and perception of risk with regard to delay the diagnosis, when women perceived the seriousness of the condition go early to seek help.

Shyness and personal modesty are common among participant women. This study reveals (94.2%) Women are embarrassment when visiting the doctor and when having breast examination. It is one of the factors that associated with delay of BC, this barrier is found in many studies (Altwalbeh et al, 2015; Ermiah et al., 2012). An explanation of this breasts are sensitive parts of a woman's body which have to be concealed all the time and a powerful cultural belief that breasts are sexual organs that should not be discussed publicly (Khazaee et al., 2014).

The study also clarifies the role of the husband with a woman diagnosed with breast cancer is a very sensitive issue. The study findings (93.0%) show that women delay seek medical help over three months is due to not receive support from the spouse. A study supports

these findings (Odongo et al., 2015,). Thus the support of the husband, play an important role in making breast cancer patients strong in winning the battle.

In this study 91.4% women delayed to seek medical advice and interpret that the economic situation of the family is barrier of an early detection of BC. Many Studies confirm these result (Pineros et al., 2009; Elobaid, 2014; Elzawawy et al., 2008; Rauscher et al., 2010; Ruddy et al., 2014; Altaf et al., 2011). As mentioned in previous studies that is due to their lack of ability to pay for a doctor's visit or treatment, and thus these women were forced to wait until their health had deteriorated to a point where medical attention was of absolute necessity.

Many types of fear that prevent women to early B.C diagnosis. In this study refer to the Fear of diagnosis of breast cancer (90.8%), Fear of surgery (88.6%), Fear of mastectomy or part thereof (74.2%), all these considered a factor for delay of diagnosis over three months. Many studies talk about fear as barrier for early detection (Elzawawy et al., 2008; Rauscher et al., 2010; Ajekigbe. 1991).

The women fear of breast diagnosis may due to fear of the unknown, a fear that stemmed from a lack of knowledge and information about what to expect during diagnosis, another fear of Breast surgery the interoperation of this, women believed B.C surgery is associated with death, some interoperation associated with fear of mastectomy they believed mastectomy was associated with death , passionately was the diminished sexuality a woman experiences after mastectomy, "Fear" of sexual relation disturbances with husband" and "Fear" of being abandoned by husband, mastectomy causes disfigurement and Disability.

In addition, the study finds that (83.4 %)of women interpret the impact on her status as a female or spouse, loss of breast or part of it as a barrier to early detection may be due to the traditional woman's role in the family of taking care of children and the husband. Donnelly et al. (2013) pointed in a study in Israel that "Fear of losing traditional role as woman" was one of the fears but it was not a barrier, this different may due to cultural values.

This study clarifies the following two points as barriers to an early B.C diagnosis. women in the study interpreted the presence of one of the family members suffered from breast cancer as barrier to early detection (80.6%), The belief that the therapy available for breast cancer leads to rapid death (79.8%). This becomes more sensitive if one of the relatives

had died or suffered from breast cancer before. So that it was looking to the topic in a negative perspective. All this is due to the lack of knowledge and awareness to B.C (Montezeri et al., 2003; Norsa'adah et al., 2011; Elzawawy et al., 2008). This study supports this view as barrier.

This study demonstrates that (77.2%) seeking treatment at the tradition healer is among the reasons for delay in seeking treatment. This is similar to the results of study conducted by (Ermiah et al., 2012) whereby13.0% of the study participants delayed because they were seeking treatment from the traditional healers.

In this study (77.8%) of women delayed to seek medical advice is due to lack of family support. One interpretation of this is that BC is not openly discussed with mothers, daughters, or other extended family members in Palestinian community.

In this study (70.6%) of women participant delayed seeking medical help over three months because of the unavailability of a female healthcare provider. Studies among Arab community clarify that healthcare provider gender is an important factor in attracting women to presenting earlier for diagnosis, Arab and Muslim women prefer female healthcare providers (Elobaid et al., 2014).

This study revealed 50% of women participant do not tell anyone when symptoms appear and keep their disease as a secret, therefore this fear holds the women to seeking medical advice and imposes silence, (Hazboun and Glennon, 2011) discussed social stigma surrounding breast cancer. This might be due to the fact that the breast is attached to the sexual and reproductive system.

6.4.2 Factors related to provider delay

Provider delay has been studied less than patient delay and there is a difference between the literature on this topic, in particular related to clinical and system factors that impact provider delay. This study shows that there is a delay by a health care provider. This reason is not discussed extensively in this study. This study focuses on the most important reasons that prevent health care provider to early B.C diagnosis.

This study clarifies 66.5% of patients discover breast cancer themselves. Such a high proportion may be explained by the fact that there are no organized breast cancer screening programs.

Where the study indicates that only 10.3% of women are doing mammogram, the absence of organized screening programs and lack of accessible and effective treatment for BC are cited as reasons for delays in treatment**.** There is no organized nationwide mammographic screening in Palestine.

Six women experienced delays because of errors in diagnosis and inaction by healthcare providers. The study also shows that the majority of women ask to visit the hospital. As 68.4% were ask to review the oncology clinic in Beit Jala Hospital. This is a good ratio indicates the awareness of a health care provider in out clinic in Palestine. Tertiary care and health system needs more highlight to know the reasons for the delay health care provider for diagnosis.

6.5 Diagnosis delay and Socio Demographic Status

This study clarifies that there is an association between age of the patient and patients delay, (p value 0.010). Linsell et al. (2008); Rauscher et al. (2010) These studies found a significant association between age and patient delay, and clarify age between (46-60) years is a risk factor for both developing breast cancer and subsequent delayed presentation. Grunfeld et al., (2002) clarifies that the age of the higher risk for delay of age group 46–60 years, may be the old women interpret the change occur in the breast due to aging process. Therefore, this study suggests any intervention program should target older women in particular.

These age results are similar to those derived from the literature of neighboring countries, the average age at presentation of breast cancer in Arab countries appears to be a decade earlier than in western countries. Breast cancer that presents at a younger age generally has more aggressive cellular features resulting in more advanced stage at presentation and treatment strategies are also more aggressive, this has important implications for early detection and cancer management strategies in Arab countries including Palestine and the ideal age at which to begin screening (Tfayli et al., 2010, Najjar and Easson., 2010).

This study also clarifies that there is no association between place of residence and patients delay (p value 0.238). These findings contrast the results done by Rauscher et al. (2010); Seedhom and Kamal, (2011). The study found that women who live in cities are more likely to have breast cancer more than women who live in villages and camps, 71.1%, 26.3%, 2.6% respectively. The study shows that women live in cities have more delay over three months than women who live in villages and camps, 28.9%, 7.2%, 1.0% respectively.

This study clarifies that there is a significant association between educational level and patients delay (p value 0.018). Alhurishi et al. (2011); Rauscher et al; (2010); Altaf et al. (2011) These studies clarify that the association between educational level and delay, and show that less education was a significant predictor of patient delay. The role of education and knowledge in decreasing delay has been confirmed in other studies (Montazerietal, 2003, Seedhom and Kamal, 2011).

This study clarifies that there is a significant association between marital status patients delay (p value 0.001). this study shows that married women delay to seek help are more than (single, divorced or widowed). This also reflects that the Palestinian women who do not receive support from husbands, or it may be due to the husband's lack of knowledge about B.C signs and symptoms, and the importance of early detections. Previous studies done by Osborne et al. (2004), Alhurishi et al. (2011) showed that is association between marital status and delay and shows widowed and divorced women had a higher risk of delay. that this could be explained by the fact that widowed and divorced women do not have enough motivation to seek help or care about themselves and lack support.

The study clarifies that there is no association between occupation and delay by patients, (p value 0.206). These findings contrast the study conducted by Rauscher et al. (2010). This study clarifies that the majority of women are housewives 91.7% Therefore it can be normal the majority of delayed women are among this group.

The study also clarifies that there is significant association between income level and patients delay (p value 0.046), women with low income have more delay to seek medical advice. Elzawawy et al. (2008); Rauscher et al. (2010); Ruddy et al. (2014); Altaf et al. (2011) all these studies confirm that there is a strong association between level income and delay, and shows that women with low level income were more likely to experience delays

in seeking medical attention. In this study (63.5%) of women who were less financially comfortable. This suggests an economic disparity that deserves further attention.

6.6 Diagnosis delay and health history

This study clarifies that there is a significant association between presence of fibrous mass, milky secretions or inflammation in the breast in the period before the discovery of the disease and patient's delay (p value 0.022), and the study shows women appear these signs more than to delay. Arndt et al. (2002); Rauscher et al. (2010) found association between fibrous and benign breast disease with delay. Explanation is that former episodes of breast tissue alterations, if benign is also later considered as benign by their doctors. Thus, it might be worthwhile to encourage women with known benign breast disease to present new breast symptoms promptly. Additionally, doctors should understand that new symptoms should be evaluated as potential new risks for breast cancer.

This study finds out that there is significant association between the ones who visited the doctors During the five years preceding the discovery of the B.C and decreased patients delay (p value 0.039). Previous studies done by Nurleli et al. (2014); Montazeri et al. (2008) showed that there is a significant associated between general help- seeking habit and decreased patients delay.

This study finds out a significant association between the family members (mother, sister) has or had breast cancer and patients delay (p value 0.023). Previous studies done by Meechan et al. (2002); Memon et al. (2013) found the same results and showed that family members with a history of breast cancer was associated with shorter delay, may be due to fear from seeing family member suffering from breast cancer.

6.7 Diagnosis delay, patient's knowledge and practice of B.C

In this study, the lack of knowledge of breast cancer reported by the study, participants show low adherence to breast cancer screening.

6.7.1 Breast Self-Examination (BSE)

The study findings showed that only 34.5% of the study participants are practicing BSE. However, 127 (65.5%) had never practiced BSE from all participant. still the rates are low compared to developed countries (Stapleton et al. 2015).

6.7.2Clinical Breast Exam (CBE) and/or Mammography

Women in the study reported low participation rate in breast cancer screening activities before the discovery of B.C signs and symptoms. This study revealed 10.8% of women participants have an adequate level of knowledge for Mammography. Our findings showed that 3.6% and%10.3 of women who reported having a history of CBE and/or Mammography respectively. Johnson (2006) Reported that Early detection methods, such as mammography, clinical breast examination and breast self-examination, can play an important role in the reduction of deaths from breast cancer in the absence of primary prevention strategies.

The lower participation rate in mammography is clear in the study. These results are obvious in the study conducted in west bank. The study shows that more than (70 %) of the participants have never applied for mammography or CBE (Azaiza, et al., 2010). A study in Gaza conducted by Shaheen et al. (2011) shows also a low percent (17%) performed a mammography at least once during their lives. This rate of participation is lower than Arab Women in the United Arab Emirates. The study clarifies that 58% of women are reported to have a history of CBE or a mammography in the past few years (Elobaid et al, 2014).

Still these participation rate are very low compared in to the ones in the developed countries. 72% of the target population in Canada reported to have had a mammogram in the past two years (Statistics Canada, 2009). In the UK more than 80% of women are reported to have had mammography in the previous three years (WHO, 2008).

EL saghir. (2008) clarifies that randomized trials of mammographic screening of average-risk women above 50 years reduced breast cancer mortality by more than 36%. According to MOH recommendations in 2005, women from age 35 -40 must do it every three years; women over 40 years should do it every two years, and after they are 50 years or more, they should apply it once every year.

In Palestine, there are clinical screening program for breast cancer screening, but the use and implementation of the program are weak as the result of this study shows. More widespread implementation of these screening may increase the quality of care for breast

cancer patients and shorten the diagnosis delay. Health care providers play a major role in delivering the message of the necessity of regular breast cancer screening.

A) The study finds a link between BSE and delay in seeking medical advice (p value

The study clarifies that women who know how to perform BSE and women practicing BSE tend to seek medical care more rapidly. Many studies have the same findings (Johnson. (2006); Stapleton et al., (2015); Naroozi and Tahmasebi, 2011).

B) The study finds an association between patients who do CBE, **Mammography and delay in seeking medical advice.**

These contrasts are shown in many studies (Naroozi and Tahmasebi, 2011; Weller and Campell, 2009) The negative association may be due to the very low participants who attend mammography and CBE.

6.8 Diagnosis delay, signs and symptoms of B.C

In the current study, the result showed that the delay to be significantly related to the type of breast symptom, with women who experienced a breast lump being less likely to delay (p value 0.011).

In the present study, the nature of the first symptom other than lump had no association with patient delay. It is argued that discovery of a breast lump reduces the patient delay and an association has been suggested in other studies (Meechan et al., 2003; Ermiah et al., 2012; Meechan et al., 2003). The lack of knowledge about common symptoms of breast cancer might explain why there was no association between the nature of the first symptom and delay in this study. The longer delay in women with other breast symptoms highlights the fact that future health screening program should encourage women who discover other abnormal breast symptoms to also seek attention promptly. The study reveals that 71% of women participants have a lump the first signs and symptoms appear, Women need to be educated about the different types of breast cancer symptoms, especially the most frequent symptom (breast lump).

6.9 Impact of breast cancer delay on clinical stage

TNM classification are summarized in table (5.20) Most of the patients (52.7%) had early stage BC (Stages I and II). And the study reveals the high proportion (47.3%) of women with BC are in advanced-stage (stage 3 and 4). This result is consistent the study conducted in Gaza, data from the Palestinian Cancer Registry (PCR) in Gaza suggest that breast cancer is diagnosed at an advanced stage of the disease; 42.2% of reported cases had regional lymph- node involvement (stage III) and 17.8% had distant metastases (stage IV), (Musmar and Abu Shmais, 2010).

Some of a study consistent of this result. In a study conducted among Arab women compared with Jewish women in the greater Jerusalem area, the pathological classification of these as follow, Ashkenazi Jews 76%% early stage (stage I and II) and 18% late stage (stage III and IV), Sephardic Jews 61% early stage and 30% late stage, Palestinian Arabs 65% early stage and 35% late stage (Nissan et al., 2004). A study conducted among Egyptian women with newly diagnosed breast cancer patients at the Tanta Cancer Center, the study reveals that 39.1% of women have an early stage, 60.9% have late stage (Mousa et al., 2011). The study conducted by Norsa'adah. (2011) in Malaysian women, the study result was 43.9% in an early stage (stage I and II), the study reveals the majority of women have an advanced stage 56. % (stage III and IV). A study conducted by Ermiah et al. (2012) among 200 Libyan females with breast cancer, women the study results are 34.5% early stage (stage I and and 65.5% are in (stage III and IV). Ozmen et al. (2014) conducted a study among 1031 patient's Turkish women with BC. Study results are 67.1%% early stage (stage I and II) and 20.9% in an advanced stage (stage III and IV).

6.9.1 Patients delay and influences of staging (TNM classification)

The relationship between patient's delay, staging and cancer progression indicators (tumor size, nodal spread and metastasis) was also analyzed. Findings show that for all three indicators there were statistically significant differences (P value 0.000). It means the patient delay of more than 3 months was closely associated with increased tumor size and advancement in the disease stages. Many studies explore the relation between patents delay and staging (Ermiah et al., 2012; Simon. 2012; Montazeri et al., 2003; Arndt et al., 2003; Saldana et al. 2015) a result of these studies are consistent with the results of this study.

6.9.2 Provider delay and influences of staging (TNM classification)

The relationship between provider delay and staging, was also analyzed. Findings show that there are statistically significant differences ($P < 0.05$), longer provider's times were associated with advanced stage. A few studies explore the relation between provider delay and staging (Jassem et al., 2013; Arndt et al., 2003; Saldana et al., 2015) a result of these studies are consistent with the results of this study.

6.10 Conclusion

This study is the first in Palestine (up to my knowledge) that investigates the factors associated with delay of breast cancer diagnosis and the effects of the delay on staging and tumor progression. Most of the outcomes of this study are expected with the same line of the most international studies results. This study indicates a complex medium of factors which were identified and that contribute to the late presentation or delayed diagnosis of breast cancer among Palestinian women who were/are treated at BJGH, i.e. the lack of knowledge of B.C signs and symptoms, cultural traditions, social support, socio-demographic factors, accessibility, screening behavior, doctor recommendations, health system, environmental aspects. These factors are associated with breast cancer delay diagnosis either positively or negatively. This study provides a better way of understanding the acceptable time interval between presentation of symptoms to seek medical advice, and time interval to reach the final diagnosis and treatment. The majority of patients with breast cancer began treatment after a delay. Both patients' delays and providers' delays were associated with advanced disease. Breast awareness and education are needed to reduce breast cancer mortality by promoting early detection, diagnosis and treatment before the tumor enlarges and spreads to lymph nodes and metastasis.

6.11 Recommendation

The findings suggest that patients and health care provider need to be educated about the different types of breast cancer symptoms.

For provider's delay, can be suggested at the primary, secondary and tertiary levels by;

- Integrating BC as public health issue within sexual and reproductive health programs for to increase awareness and reduce the delays of women in seeking health care services regarding investigating BC.
- Implementing organized population-based screening programs within accessible health care facilities as well as founding cancer centers.

- It must be stressed that the entire civil organizations and bodies must be mobilized and involved in a wider campaign for an effective awareness. Religious leaders can play a major role in this respect through their encouragement to women for early diagnosis and screening of BC since such issues don't contradict with religious teachings. Such campaigns can be carried out through seminars and speeches.
- Palliative care should be emphasized and integrated within the tertiary health care system
- To know the reasons of health care provider delay for diagnosis and to highlight this gap in order to correct this delay
- There is an urgent need for constructing a national program to overcome the difficulties and barriers faced by breast cancer patients.

For patient's delay

- Women need encouragement to seek medical advice when they encounter suspicious symptoms through different channels particularly mass media and medical campaigns.
- Husbands should be included within the education/awareness programs and encouraging them to attend with their wives for successful breast cancer screening promotion and early detection.
- Families should be involved in awareness programs so they can support their family members with BC

For public health researchers

- The need for more detailed researches with larger sample size including more hospitals.
- Conducting a more prospective study on diagnosis delay taking into account the five years' survival rate.

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Annex 1. Consent Form

اقرار بالموافقة على المشاركة في البحث

Informed Consent for Research with Survey or Questionnaire

عنوان البحث:

العوامل المرتبطة في تأجيل تشخيص سرطان الثدي عند النساء الفلسطينيات واللاتي يتعالجن في مستشفى بيت جالا الحكومي – بيت لحم.

هدف البحث:

دراسة جميع العوامل المتعلقة في تأجيل تشخيص سرطان الثدي ومعرفة أسباب التأجيل فيما إذا كانت متعلقة بالمريض نفسه او ناجمه عن مقدم الرعاية الصحية، مدى انتشار هذه الظاهرة بين النساء الفلسطينيات اللاتي يتعالجن في مستشفى بيت جالا الحكومي، وما مدى تأثير هذا التأجيل على صحة المريض، مرحلة السرطان، حجم الورم.

الغرض من البحث:

ان معظم حالات سرطان الثدي في فلسطين يتم اكتشافها متأخرا كما ان الكشف المبكر يساهم في العلاج بنجاعة من هذا المرض والشفاء منه بنسبه تفوق 40% (وزارة الصحة الفلسطينية، 2011).

ان مساعدتنا في الحصول على المعلومات الصحية والدقيقة تمكننا من فهم العوامل المرتبطة في تأجيل تشخيص سرطان الثدي، وهذا بدوره يساهم في العلاج المبكر مما يخفف من حدة المرض والعواقب المترتبة عليه، ويزيد من نسبة الشفاء بين هذه الشريحة من المجتمع الفلسطيني، وبناءا على النتائج ستتم التوصيات لإنشاء برامج توعوية للنساء الفلسطينيات حول أهمية فحص الثدي الدوري لاكتشاف المرض في مراحله المبكرة، كما يساهم هذا البحث في تسليط الضوء على مقدمي الرعاية الصحية ودورهم في المساهمة بالكشف المبكر لسرطان الثدي.

ارجو تعاونك في تعبئة هذا الاستبيان بدقة وصراحة، علما ان جميع المعلومات التي سوف تدلين بها سوف تعامل بسرية ولأغراض البحث العلمي فقط.

مع جزيل الشكر والعرفان

الطالب: عبد الناصر بدوي

المشرف: د. سمية الصايج

توقيع المشتركة/اختياري:

ANNEX 2. Arabic questionnaire

الرقم المتسلسل للاستبيان: .....

تاريخ اليوم: .....
الرقم الطبي: .....

الجزء الأول:

هذا الجزء يتضمن الخصائص الاجتماعية والديموغرافية للمريض.

1	العمر: ..... سنة					
2	تاريخ الميلاد:					
3	مكان السكن:	□ مدينة	□ قرية	□ مخيم		
4	عنوان مفصل:					
5	المستوى التعليمي:	□ امي				
		□ ملم (تقرأ وتكتب)				
		□ ابتدائي				
		□ اعدادي				
		□ ثانوي				
		□ دبلوم متوسط				
		□ بكالوريوس فأعلى				
6	الحالة الزوجية:	□ عزباء	□ متزوجة	□مطلقة	□ارملة	
7	العمر عند الزواج: ..... سنة					
8	المهنة:					
	□ ربة بيت					
	□ متقاعده. ما هي وظيفتك السابقة:					
	□ موظفة. ما هي وظيفتك الحالية:					
	□غير ذلك، اذكري					
9	المهنة خلال الخمسة اعوام الماضية:					
10	الدخل الشهري للعائلة بالشيكل:	□اقل من 1000	□ 2000-1001	□3000-2001	□ أكثر من 3000	

الجزء الثاني:

المعلومات المتعلقة بالتاريخ الصحي لك وللعائلة، والعادات المتبعة بشأن فحص الثدي والمتابعة الدورية لاكتشاف سرطان الثدي.

1	هل عانيت او تعانين من الامراض المزمنة التالية او امراض اخرى:	نعم	**لا**	لا اعرف
1	ارتفاع ضغط الدم	□	□	□
2	السكري	□	□	□
3	الربو	□	□	□
4	أي نوع من انواع الحساسية	□	□	□
5	التهاب المفاصل المزمن او الحاد	□	□	□
6	امراض الجهاز الهضمي	□	□	□
7	امراض القلب والاوعية الدموية	□	□	□
8	امراض الجهاز المناعي الذاتية. مثل (الذئبة الحمراء، روماتيزم المفاصل، الخ)	□	□	□
9	عدوات متكررة	□	□	□
10	امراض عصبية او نفسية	□	□	□
11	اورام خبيثة في اماكن اخرى في الجسم (غير الثدي)	□	□	□

2	التاريخ الصحي لك وللعائلة			
1	في المرحلة التي سبقت اكتشاف المرض لديك هل عانيت من وجود كتلة، أكياس ليفية، افرازات حلبيبه او التهاب في الثدي؟	□نعم	□**لا** □	□لا اذكر
2	هل قمت خلال الخمس سنوات التي سبقت اكتشاف السرطان بزيارة أحد الاطباء / الطبيبات وذلك من اجل القيام بفحوصات شاملة لجسمك**؟**	□نعم	□**لا** □	□لا اذكر
3	هل يوجد أحد من افراد العائلة (الام، الأخت) أصيب بسرطان الثدي؟	□نعم	□**لا**	□لم اسمع عنه يوما
4	هل يوجد أحد من الاقارب (العمه، الخالة، الجدة، بنت العم/ة، بنت الخال/ة) أصيب بسرطان الثدي؟	□نعم	□**لا**	□لا اعرف
5	هل اصيب أحد من افراد العائلة او الاقارب بأي نوع اخر من السرطانات؟	□نعم	□**لا**	□لا اعرف
3	العادات المتبعة بشأن فحص الثدي			

1 قبل تشخيص المرض لديك، هل تعرفين كيفية اجراء الفحص الذاتي للثدي؟ □نعم □لا □لا اعرف

2 إذا كانت اجابتك نعم من اين مصدر معلوماتك؟

1. التوعية المقدمة من الطواقم الطبية □
2. الانترنت □
3. التلفاز □
4. أحد من افراد العائلة (زوجي، امي، اختي، ...) □
5. غير ذلك، اذكري..... □

3 قبل تشخيص المرض لديك، هل سبق وان قمت بالفحص الذاتي للثدي؟ □نعم □لا □لم اسمع عنه يوما

<u>إذا كانت اجابتك نعم</u>، ضع اشارت (√) وفق ما ترينه مناسب

عدد المرات التي قمت بها بالفحص الذاتي للثدي؟

1.اقوم بعمل الفحص الذاتي للثدي مره كل شهر. □
2.اقوم بعمل الفحص الذاتي للثدي من ثلاث الى أربع مرات سنويا. □
3.اقوم بعمل الفحص الذاتي للثدي مره كل سنة. □
4.غير ذلك، اذكري ..... □

4 قبل تشخيص المرض لديك، هل تعرفين ما هو التصوير الاشعاعي للثدي؟ □نعم □لا □لم اسمع عنه يوما

5 قبل تشخيص المرض لديك، هل سبق وان قمت بعمل صورة شعاعية للثدي؟ □نعم □لا □لم اسمع عنه يوما

<u>إذا كانت اجابتك نعم</u>، ضع اشارت (√) وفق ما ترينه مناسب

المرات التي قمت بها بعمل صوره شعاعية للثدي؟

1.اقوم بعمل صوره الثدي الشعاعية مره كل سنة. □
2.اقوم بعمل صوره الثدي الشعاعية مره كل سنتين. □
3.اقوم بعمل صوره الثدي الشعاعية مره كل ثلاث الى أربع سنوات. □
4.غير ذلك، اذكري ..... □

6 قبل تشخيص المرض لديك، هل سبق وان زرت الطبيب/ه لعمل الفحص السريري للثدي؟ □نعم □لا □لم اسمع عنه يوما

<u>إذا كانت اجابتك نعم</u>، ضع اشارت (√) وفق ما ترينه مناسب

المرات التي قمت بها بعمل الفحص السريري للثدي عند الطبيب/ة؟

1.اقوم بعمل الفحص السريري للثدي مرة كل سنة □

2.اقوم بعمل الفحص السريري للثدي مرة كل سنتين □

3.اقوم بعمل الفحص السريري للثدي مرة كل ثلاث الى أربع سنوات □

4.غير ذلك. اذكري ..... □

<u>الجزء الثالث</u>:

المعلومات المتعلقة بالأعراض الاولى لسرطان الثدي عندك، الشخص الذي اكتشف هذه الاعراض، سبب التأخير ما بين اكتشاف هذه الاعراض الى زيارة الطبيب، وسبب التأخير في وضع التشخيص النهائي بعد زيارة الطبيب.

		نعم	لا	لا اعرف
1	ما هي العلامة التي ظهرت عندك ودفعتك للبحث عن المشورة الصحية؟ (الاعراض التحذيرية لسرطان الثدي)			
1	هل ظهر كتلة غير مؤلمه في أحد الثديين مما دفعك لزيارة الطبيب؟	□	□	□
2	هل حدث تغير ومشاكل في الحلمة؟	□	□	□
3	هل حدث الم في الثدي؟	□	□	□
4	هل حدث تغير في شكل وحجم الثدي	□	□	□
5	هل حدث انتفاخ او بروز للغدد الليمفاوية تحت الابط؟	□	□	□
6	هل حدث وان كان هناك افرازات ذات طبيعة غريبة من الثدي	□	□	□
7	هل حدث انتفاخ في الثدي؟	□	□	□
2	ما هي اول الاعراض السابقة التي ظهرت لديك؟ الاجابة.....			

3	من اكتشف العرض / الاعراض التي قمت بالإدلاء بها بالأسئلة السابقة، (أي العلامة الأولى لسرطان الثدي عندك)؟
1	انت (المريض نفسه) □
2	الطبيب/ الطبيبة □
3	من خلال الصورة الشعاعية (mammography) وبدون تحويل من الطبيب □
4	غير ذلك، حددي ..... □
4	عند ظهور أحد هذه الاعراض السابقة هل قمت بالتحدث الى؟
1	لم اتحدث لاحد □
2	قمت بإخبار زوجي □
3	اخبرت أحد افراد العائلة □
4	اخبرت احدى صديقاتي □
5	كم تأخرت من الزمن منذ ظهور الاعراض لديك والى حين زيارة الطبيب لإخباره بتلك الاعراض علما بانها كانت البداية لاكتشاف المرض؟ (ارجو تحديد الفترة الزمنية بجانب الاجابة التي تختارينها)
1	اقل من شهر □ (اذكري عدد الايام.....)
2	ما بين شهر الى ثلاث أشهر □ (اذكري عدد الايام.....)
3	أكثر من ثلاث أشهر □ (اذكري عدد الأشهر او السنوات.....)

6. ما سبب التأخير لزيارة الطبيب منذ ظهور الاعراض في الثدي الى زيارة الطبيب الاولى لاكتشاف المرض: ضع اشارة (√) تحت ما ترينه مناسب، وفقا لمقياس ليكرت الخماسي (موافق بشده، موافق، لا أدرى، غير موافق، غير موافق بشده)

	ما سبب التأخير لزيارة	موافق بشده	موافق	لا أدرى	غير موافق	غير موافق بشده
1	لم اخذ الامر بشكل جدي، الاعتقاد بأن هذه الاعراض سوف تزول؟					
2	عدم وجود الوقت الكافي لدي؟					
3	عدم وجود طبيبه او اخصائية امرأة لفحص الثدي؟					
4	الوضع الاقتصادي للأسرة لا يسمح بذلك؟					
5	الخجل من زيارة الطبيب وفحص الثدي؟					
6	الخوف من تشخيص سرطان الثدي؟					
7	الخوف من اجراء عملية جراحية؟					
8	الخوف من ازالة الثدي او جزء منة؟					
9	التأثير على وضعي كأنثى او زوجه، بفقدان الثدي او جزء منه؟					
10	عدم تلقي الدعم من العائلة؟					
11	عدم تلقي الدعم من الزوج؟					
12	وجود أحد من افراد العائلة النساء مصاب بسرطان الثدي ولا اريد ان اعاني مثله؟					
13	الاعتقاد بأن العلاج المتوفر لسرطان الثدي يؤدي الى الموت السريع؟					
14	الرفض للتوجه الى طبيب واعتبار ذلك تسليم للقدر مهما كانت نتائج سرطان الثدي؟					
15	السعي لاستخدام الطب البديل مثل المداواة بالأعشاب؟					

8. ما هو السبب الرئيسي من الاسباب السابقة لتأخيرك لزيارة الطبيب منذ ظهور الاعراض لديك في الثدي او إذا كان لديك اسباب اخرى؟ .....

7	ما هو السبب الذي دفعك للاستشارة الطبية بعد الانتظار؟ **(يمكن اختيار أكثر من اجابة بوضع (√)** عند المربع المناسب**)**			
1	استمرار الاعراض	□ نعم	□ **لا**	□ لا اعرف
2	الشعور بالخوف بان تكون اعراض لسرطان الثدي وان تصبح اسوء إذا تركت بدون علاج	□	□	□
3	الفضول إذا كانت هي اعراض سرطان الثدي	□	□	□
4	نصيحة من الاسرة والاقارب	□	□	□
5	اصبحت الاعراض أكثر سوءا	□	□	□
6	اسباب اخرى/ اذكري	□	□	□
8	منذ ظهور الاعراض لديك، هل قمت بزيارة أحد الاطباء / الطبيبات وذلك قبل زيارة مستشفى بيت جالا الحكومي؟	□نعم	□**لا**	□لا اعرف

إذا كانت اجابتك <u>نعم</u> ارجو الاجابة عن السؤالين التاليين وإذا كانت <u>لا</u> ارجو الانتقال للسؤال 11

9	من الطبيب / الطبيبة الذي قمت بمراجعته منذ ظهور الاعراض لديك وقبل زيارة مستشفى بيت جالا الحكومي؟	
1	طبيب/ة عام	□
2	طبيب/ة نسائية	□
3	طبيب/ة اورام	□
4	طبيب/ة جراحه	□
5	غير ذلك، حددي	□

10	عند زيارتك الطبيب للمرة الأولى بعد ظهور العرض الأول لسرطان الثدي، بماذا تم توجيهك، وذلك قبل زيارة مستشفى بيت جالا الحكومي؟	
1	طلب مني عمل صورة شعاعية للثدي	□
2	تم تحويلي لمستشفى بيت جالا /عيادة الاورام، لاستكمال الفحوصات	□
3	تحويلي لمستشفى اخر لاستكمال الفحوصات.	□

4	تشخيصي بغير سرطان الثدي، مثل التهاب في الثدي	□
5	غير ذلك؟ اذكري	□

11	عند زيارتك لمستشفى بيت جالا الحكومي لأخذ موعد لعيادة الاورام، كم من الوقت استغرقت لرؤية الطبيب؟		
1	اقل من اسبوع	□ (اذكري عدد الايام.....)	
2	اقل من شهر	□ (اذكري عدد الايام .....)	
3	أكثر من أشهر	□ (اذكري عدد الأيام /الاشهر.....)	

12	حسب ذاكرتك، ما هي المدة او الفترة بين الزيارة الأولى للطبيب، والوصول الى التشخيص النهائي لسرطان الثدي مرورا بأخذ عينة من الثدي؟		
1	اقل من اسبوع	□ (اذكري عدد الايام.....)	
2	اقل من شهر	□ (اذكري عدد الايام .....)	
3	أكثر من أشهر	□ (اذكري عدد الأيام /الاشهر.....)	

13	**ما هو تاريخ تشخيصك بسرطان الثدي؟**		
14	ما هو نوع العلاج الذي خضعت له منذ اصابتك بسرطان الثدي؟ **(يمكن اختيار أكثر من اجابة)**		
1	جراحة لإزالة الثدي بأكمله.	□ نعم	□ لا □ لا اعرف
2	جراحة لإزالة جزء من الثدي.	□	□ □
3	جراحة لإزالة الكتلة.	□	□ □
4	علاج بالإشعاع.	□	□ □
5	علاج كيميائي.	□	□ □
6	علاج هرموني.	□	□ □
7	علاج مناعي.	□	□ □

الرعاية التلطيفية: لا تهدف الرعاية التلطيفية إلى علاج المرض، ولكنها تهدف إلى مساعدة المريض ومساعدة عائلته لتحسين حياته من خلال تلبية الاحتياجات الجسدية والعملية والمعنوية والروحية المرتبطة بمرضة؛ وهي تتضمن مجموعة من الخدمات المقدمة من الفريق الطبي والتمريضي، وغيرهم من أخصائي الصحة ذوي الصلة، يركز العلاج في الغالب على تخفيف الألم أو الأعراض الناتجة عن الإصابة بالسرطان، ويتضمن أيضاً علاج للآثار الجانبية الجسدية التي قد تسببها الأدوية.

15	هل تم ارشادك او تحويلك للرعاية التلطيفية؟	□ نعم	□ لا
	إذا كانت الاجابة نعم اجب عن السؤالين التاليين		

16 هل كانت الرعاية التلطيفية؟ (يمكن اختيار أكثر من اجابة)

1	جزء من العلاج داخل المستشفى	□
2	رعاية منزلية (البيت)	□
3	غير ذلك، اذكري؟	□

17	ما هو نوع الرعاية التلطيفية التي تم تقديمه لك؟ **(يمكن اختيار أكثر من اجابة بوضع اشارت (√) وفق ما ترينه مناسب)**			
1	علاج الالام باستخدام المسكنات التي تتراوح بين المسكنات البسيطة مثل باراسيتامول ، او مسكنات متوسطة مثل الترامادول، أو المسكنات القوية مثل المورفين .	□ نعم	□ لا	□ لا اعرف
2	علاج الأعراض غير المؤلمة مثل الغثيان والضعف العام ومشاكل الأمعاءوبعض صعوبات التنفس وغيرها.	□	□	□
3	علاج الاكتئاب والحزن والتي قد تحتاج إلى علاج دوائي أو غيره.	□	□	□
4	مساعدة عائلتي وهذا يتضمن تعليمات حول كيفية إعطاء الدواء، بالإضافة إلى تهيئة المنزل الذي اعيش فيه من خلال تهيئة بعض الأشخاص المقربين لي وتدريبهم على رعايتي.	□	□	□
5	توفير الاحتياجات الدينية ويشمل ذلك دعم، ونصح رجال الدين لي او لعائلتي.	□	□	□
6	توفير الاحتياجات الروحية لي من خلال الاستماع الي عند الحديث عن معاناتي النفسية او الجسدية.	□	□	□

<u>الجزء الرابع</u>:(لاستخدام الباحث فقط)

18	المرحلة التي تم تشخيص المريضة بها:

(المعلومات التالية تخص وضع المريضة حاليا)

19	المريضة في أي مرحلة من سرطان الثدي:
20	حجم الورم المصاحب للمريض:
21	اصابة الغدد الليمفاوية تحت الابط:
22	انتشار السرطان الى أعضاء أخرى غير الثدي:

ANNEX 3. English questionnaire

The serial number of the questionnaire: .....
Today's date: .....
Medical Number: .....

part One:

This section includes the social and demographic characteristics of the patient.

1	Age: .....years				
2	Birth date:				
3	Place of residence:	□City	□ Village	□ camp	
4	Detailed Title:				
5	Educational level □Illiterate □ not (reads and writes) □primary □Preparatory □secondary □Diploma Average □bachelor degree or high				
6	Marital Status.	□ Single	married □	□divorced	□ Widow
7	Age at marriage: ..... years				
8	Occupation: □ housewife □ retired. What is the last job: ..... □ employee. What is your current job: ..... □ Other, Indicate .....?				
9	The profession over the past five years:				
10	Monthly income of the family NIS	□ less than: 1000	□ 1001-2000	□ 2001-3000	□ more than 3000

The second part:

Information related to you and your family health history, and the occurrences of breast screening and periodic follow-up to detect breast cancer.

		Yes	No	I do not know
1	**Have you had or are suffering from these chronic diseases and other diseases:**			
1	High blood pressure	□	□	□
2	Diabetes	□	□	□
3	Asthma	□	□	□
4	Any type of allergies	□	□	□
5	Chronic arthritis or acute	□	□	□
6	Digestive Disease	□	□	□
7	Cardiovascular disease	□	□	□
8	Self-immune system diseases. (Such as systemic lupus (erythematosus, rheumatic arthritis, etc.	□	□	□
9	Recurrent infections	□	□	□
10	Neurological or psychiatric disease	□	□	□
11	Malignant tumors elsewhere in the body (non-breast)	□	□	□

		Yes	no	I don't know
2	**Health history of you and your family**			
1	In the period before the discovery of the disease have you had the presence of mass, fibrous bags, milky secretions or inflammation in the breast?	□	□	□
2	During the five years preceding the discovery of the cancer have you visited one of the doctors / physicians in order to carry out comprehensive checks to your body	□	□	□
3	Is there anyone of the family members (mother, sister) has or had breast cancer?	□	□	□

4	Is there anyone of the relatives (Aunt, aunt, grandmother, uncle girl / H, girl Khal / e) suffering from breast cancer?	□	□	□
5	Is there anybody of the family members or relatives who suffers from any other type of cancer.	□	□	□
3	**Usages on breast examination**	□	□	□
1	Before the diagnosis of the disease you have, do you know how to perform a breast self-examination?	□	□	□
2	If you answer is "yes", where have you got the source of your information?	□	□	□
	1. awareness provided by the medical staff	□	□	□
	2. online	□	□	□
	3. TV	□	□	□
	4. One of the family members (my husband, my mom, my sister, ...)	□	□	□
	5. otherwise, Indicate	□	□	□
3	**Before the diagnosis of the disease you have, have you ever thought of breast self-examination?**	□	□	□
	If you answer is "yes", put the mark (√) as appropriate according to the number of times that you have made self-examination of the breasts?			
	1.I run breast self-examination once a month.	□	□	□
	2.I run breast self-examination of three to four times a year.	□	□	□
	3.I run breast self-examination once a year.	□	□	□
	4. Others indicate			
4	**Before the diagnosis of the disease you have, have you known what a mammogram is?**	□	□	□
5	**Before the diagnosis of the disease you have, have you ever thought of performing a mammogram?**			
	If you answered is "yes", place (√) as appropriate Once you have run a mammogram?			
	1.I run mammogram everyone years.	□	□	□
	2.I run mammogram every two years.	□	□	□

	3. mammogram once every three to four years.	□	□	□
	4. others. Indicate			
6	**Before the diagnosis of the disease you have, have you ever visited the doctor / before you run clinical breast examination?**	□	□	□
	If you answer is "yes", place (√) as appropriate **Once you have run the clinical breast examination when? the doctor / e?**			
	1. I Perform the clinical breast examination once a year	□	□	□
	2. I Perform the clinical breast examination every two years.	□	□	□
	3.I perform the clinical breast examination once every three to four years	□	□	□
	4.Others. Indicate	□	□	□

<u>The third part:</u>

Information related to the first symptoms of breast cancer you have, the person who discovered these symptoms, the cause of the delay between the discovery of these symptoms and visiting the doctor, and the reason for the delay in a final diagnosis after visiting the doctor.

1

What is the mark that appeared which urges you to search for health advice? (Warning symptoms of breast cancer)

1	Does the emergence of an unpainful lump in one of breasts urge your t to visit the doctor?	□
2	Were there changes and problems in the nipple?	□
3	Was there a pain in the breast?	□
4	Was there a change in the shape and size of breast?	□
5	Was there a swilling of the lymph nodes under the armpit?	□
6	Was there a strange nature of secretions from the breast	□
7	Was there a swilling in the breast itself?	□

1 What were the first symptoms that appeared earlier? The answer.

2 Who discovered the symptoms that you have you have mentioned in the previous answers, (i.e. the first sign of breast cancer you have)?

1 You? (the patient himself) □

2 The physician / doctor □

3 Through X-ray (mammography) and without conversing with the doctor.

4 Others. Identify .....

4 Upon the emergence of these previous symptoms did you speak to?

1 I have not spoken to anyone. □

2 I told my husband. □

3 told a family member. □

4 I told one of my friends. □

5 How long did it take you since onset of symptoms you have to visit a doctor to tell him about those symptoms? Knowing that it was the beginning of the discovery of the disease? (Please specify the time period next to the answer you choose)

1 Less than a month (Indicate the number of days .....)

2 Between one month to three months (Indicate the number of months.....)

3 More than three months (Indicate the number of months or years .....)

6. What was reason for the delay to visit a doctor since the onset of symptoms in the breast to detect the disease: Tick (√) under the appropriate choice according to the Likert scale Quintet (Strongly Disagree, OK, I do not know, but OK, strongly disagree).

The reason for the delay of the visit						
1	I did not take things seriously, believing that these symptoms will go away?					
2	The lack of adequate time do I have?					
3	The lack of a woman doctor or a specialist who can run breast examination?					
4	The economic situation of the family does not allow it?					
5	The embarrassment of visiting the doctor and breast examination?					
6	Fear of diagnosis of breast cancer?					

7	Fear of surgery?					
8	Fear of mastectomy or part thereof? (removing)					
9	The impact on my status as a female or spouse, loss of breast or part of it?					
10	I do not receive support from the family?					
11	I do not receive support from the spouse					
12	The presence of one of the family members suffering from breast cancer and I do not want to I suffer like her?					
13	The belief that the therapy available for breast cancer leads to rapid death?					
14	The refusal to go to a doctor and leaving to fate as whatever the outcome of breast cancer could be?					
15	Seeking to use alternative therapies such as herbal medicine?					

8. What is the main reason, taking into consideration the previous ones, for the delay to visit a doctor since the onset of symptoms you have in your breast? ....

7 **What is the reason that urges you for medical consultation after the delay? (You may select more than one answer put (√) in the appropriate box)**

1 symptoms persist. □

2 The feeling of fear that the symptoms of breast cancer may become worse if left untreated. □

3 Curiosity if they are the symptoms of breast cancer. □

4 Advice from family and relatives. □

5 Symptoms become serious. □

6 Other reasons / Mention!..... □

8 **Since the onset of symptoms, you have, did you visit one of the doctors / physicians prior to the visit of Beit Jala Governmental Hospital**? Yes□ No□

If your answer is "Yes" please answer the following two questions and if they do not apply, please go to question 11!

9 **The doctors you have reviewed since the onset of symptoms and before visiting Beit Jala Government Hospital the first time?**

1 A general practitioner □

2 A gynecologist □

3 An oncologist □

4 A Surgeon □

5 Others!! Mention! □

10 **When you visit a doctor for the first time after the appearance of the first signs of breast cancer, what does he tell you to do before being directed of Beit Jala Governmental Hospital?**

1 I was asked to have a mammogram □

2 I have been transferred to Beit Jala Hospital / Oncology Clinic, to complete the tests. □

3 I have been transferred to other Hospital to complete the tests. □

4 Being diagnosed as non-breast cancer case, it is only inflammation of the breast □

5 Others? Indicate ..... □

11 **When you visited BJGH, to make an appointment for the Oncology clinic, how long did it take to see a doctor?**

1 Less than a week □ (Indicate the number of days .....)

2 Less than a month □ (Indicate the number of days .....)

3 More than a month □ (Indicate the number of days / months)

12 **According to your memory, what is the duration and the period between the first visit to the doctor, and getting to the final diagnosis of breast cancer, through taking a sample from the breast?**

1 Less than a week □ (Indicate the number of days .....)

2 Less than a month □ (Indicate the number of days .....)

3 More than a month □ (Indicate the number of days / months ..

13 **What is the time that diagnosis of breast cancer? .....**

14 **What is the treatment that has undergone since the time was diagnosed as breast cancer? (You may select more than one answer**

1	Mastectomy.	☐
2	Partial mastectomy.	☐
3	Lumpectomy	☐
4	Radiotherapy.	☐
5	Chemotherapy.	☐
6	Hormonal therapy.	☐
7	Immunotherapy.	☐

Palliative care: The palliative care doesn't aim to treat the disease, but they are designed to help the patient and help the family to improve his life by meeting the physical and practical, moral and spiritual needs associated with illness; it includes a range of services provided by medical and nursing team, and other health professionals with relevant understanding, often focused on relieving the pain or symptoms resulting from cancer. It also includes the treatment of the physical side and effects of drugs that may be caused.

15 **Were you guided to the Palliative Care?**
If the answer is "Yes" the two following questions.

16 **Was palliative care? (You may select more than one answer)**

1	Part of the treatment performed in the hospital	□
2	Home care (home)	□
3	Others! Indicate!	□

17 **What types of palliative care, which have been submitted to you? (You may select more than one answer. Mark (√) as appropriate!**

1 The treatment of pain using painkillers, which range from simple analgesics such as paracetamol, or painkillers like Tramadol medium, or strong painkillers such as morphine.

2 The treatment of painful symptoms such as nausea, general weakness and problems related to breathing difficulties and others.

3 The treatment of depression, sadness and which may need different medication.

4 The help my family and this includes instructions on how to take the medicine, in addition to the house in which I live through finding some close ones to be trained to take care of me.

5 Providing religious needs that includes the support of religious men for moral-raising and advice.

6 Providing me with the spiritual needs by listening to and talking about my psychological or physical suffering.

Part IV :(For the researcher use only)

18 The stage of the illness which patient are diagnosed by.

18 **(The following information concerning the current status of the patient).**

19 The stage of the illness (breast cancer) the patient is undergoing.

20 The size of tumor-associated with the illness.

21 The affected lymph nodes under the armpit.

22 The spread of cancer to other organs other than the breast.

Annex 4 Factors analysis for the reasons of patient delay

N		
.1	**Did not take things seriously, believing that these symptoms will go away?**	0.647
.2	**The embarrassment of visiting the doctor and breast examination**	0.779
.3	**Do not receive support from the spouse**	0.801
.4	**The economic situation of the family does not allow it**	0.567
.5	**Fear of diagnosis of breast cancer**	0.651
.6	**Fear of surgery**	0.539
.7	**The impact on status as a female or spouse, loss of breast or part of it**	0.480
.8	**one of the family members suffering from breast cancer and I do not want to I suffer like her**	0.535
.9	**Belief that the therapy available for breast cancer leads to rapid death**	0.531
.10	**Do not receive support from the family**	0.599
.11	**Seeking to use alternative therapies such as herbal medicine**	0.414
.12	**Fear of mastectomy or part thereof**	0.475
.13	**The refusal to go to a doctor and leaving to fate as whatever the outcome of breast cancer**	0.542
.14	**The lack of adequate time**	0.775
.15	**The lack of a woman doctor or a specialist who can run breast examination?**	0.681

Annex 5 Types of palliative care

	Yes		No		Do not know		Total N
	#	%	#	%	#	%	
The treatment of pain using painkillers, which range from simple analgesics such as paracetamol, or painkillers like Tramadol medium, or strong painkillers such as morphine.	**60**	**87.0**	**9**	**13.0**	**-**	**0.0**	**69**
The treatment of painful symptoms such as nausea, general weakness and problems related to breathing difficulties and others.	**54**	**78.3**	**15**	**21.7**	**-**	**0.0**	**69**
The treatment of depression, sadness and which may need different medication.	**50**	**73.5**	**17**	**25.0**	**1**	**1.5**	**69**
The help my family and this includes instructions on how to take the medicine, in addition to the house in which I live through finding some close ones to be trained to take care of me.	**66**	**95.7**	**3**	**4.3**	**-**	**0.0**	**69**
Providing religious needs that includes the support of religious men for moral-raising and advice.	**5**	**7.2**	**64**	**92.8**	**-**	**0.0**	**69**
Providing me with the spiritual needs by listening to and talking about my psychological or physical suffering.	**66**	**95.7**	**3**	**4.3**	**-**	**0.0**	**69**

Annex 6 Approval from MOH.

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State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة- نابلس
الإدارة العامة للتعليم الصحي

الرقم: ع.ت/١٧٦٤/٢٠١٥
التاريخ: ٢٠١٥/١١/٤ م

Ref.: .....
Date: .....

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،
تحية واحتراما،،

الموضوع: تسهيل مهمة طلاب

تماشياً مع سياسة وزارة الصحة المتعلقة بتعزيز التعاون مع الجامعات والمؤسسات الأكاديمية بإتاحة فرص التدريب أمام الطلبة والخريجين والباحثين في المؤسسات الوطنية وإسهاماً في تنمية قدراتهم.

يرجى تسهيل مهمة الطالب: عبد الناصر محمود بدوي – ماجستير صحة عامة– مسار علم الاوبئة– جامعة القدس، في عمل بحث بعنوان: "العوامل المترتبة في تأجيل التشخيص عن سرطان الثدي عند النساء الفلسطينيات واللواتي يتعالجن في مستشفى بيت جالا"، لذا يرجى تسهيل مهمته في الحصول على المعلومات اللازمة من خلال تعبئة استبانة من المريضات المراجعات لمستشفى بيت جالا الحكومي بعد اخذ موافقتهن، علما بأنه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية المعلومات.

مع الاحترام،،

دولة فلسطين وزارة الصحة الإدارة العامة للتعليم الصحي

د. أمل أبو عون
ق. أ. مدير عام التعليم الصحي

نسخة: عميد كلية الصحة العامة المحترم/ جامعة القدس

العوامل المرتبطة في تأجيل تشخيص سرطان الثدي عند النساء الفلسطينيات اللاتي يتعالجن في مستشفى بيت جالا الحكومي – بيت لحم.

اعداد: عبد الناصر محمود حسن بدوي

اشراف الدكتورة: سمية الصايج

الملخص:

مقدمة: إن سرطان الثدي هو أكثر أنواع السرطان شيوعا بين النساء، ويعتبر ايضا أكثر سرطان قاتل في صفوف النساء في جميع أنحاء العالم، وسرطان الثدي هو أكثر اسباب الوفاة بالسرطان شيوعا بين النساء في عام2012 حيث كانت هناك 522.000 حالة وفاة. سرطان الثدي يأتي في المرتبة الاولى بين أنواع السرطان التي تصيب النساء الفلسطينيات، والذي بلغ (35.4٪) من إجمالي حالات السرطان في عام 2013، ومعظم هؤلاء النساء تسعى إلى عناية طبية في مرحلة متأخرة.

الأهداف: تحديد ما إذا كان هناك أي تأجيل في التشخيص بين النساء اللاتي يتعالجن في مستشفى بيت جالا الحكومي، سواء كان التأجيل من المريض نفسه او من مقدم الرعاية الصحية. تقييم جميع العوامل الممكنة/ الحواجز المرتبطة في تأخير تشخيص سرطان الثدي، للتعرف على العلاقة بين الخصائص الديمغرافية للمريض، العادات المتبعة بشأن فحص الثدي، التاريخ الصحي للعائلة، طبيعة ونوع الاعراض الاولية لسرطان الثدي وتأخير المريض للذهاب والكشف عن سرطان الثدي، التعرف على العلاقة بين مرحلة المرض وحجم الورم والتأخير في تشخيص سرطان الثدي.

المنهجية: عبر دراسة مقطعية أجريت على 194 امرأة فلسطينية مصابة بسرطان الثدي، واللاتي يتعالجن في مستشفى بيت جالا الحكومي، وقد تم اختيار العينة من قسم الرعاية اليومية للنساء اللاتي تأتي لتلقي العلاج الكيميائي وايضا من قسم الاورام ومن العيادات الخارجية للنساء التي تأتي للمراجعة، وقد تم جمع البيانات وجها لوجه مع المريضات باستخدام استبيان منظم تم اعداده مسبقا.

وقد شمل الاستبيان معلومات حول البيانات الديموغرافية، والمريض والتاريخ الصحي للأسرة، والمتابعة الدورية للكشف عن سرطان الثدي، الأعراض الأولية لسرطان الثدي، والطريقة التي تم اكتشافه بها، والسبب في تأخير التشخيص. سبب التأخير بين اكتشاف هذه الأعراض وزيارة الطبيب وسبب التأخير في التشخيص النهائي بعد زيارة الطبيب. وأخيرا، تم التحقق من مرحلة المرض لكل امرأة شاركت في الدراسة عن طريق الرجوع لملف كل مريضه مسجل على الكمبيوتر.

النتائج: خلصت الدراسة ان17٪ من النساء ذهبن لتلقي الاستشارة في غضون الأشهر الثلاثة الأولى. وان 37.1٪ من النساء انتظرن لأكثر من ثلاثة أشهر (تأخير المريض). كما اوضحت الدراسة ان 46.9٪ من النساء المشتركات في الدراسة تم تشخيصهن بعد أكثر من شهر (تأخير مقدم الرعاية الصحية). كما اوضحت الدراسة ان التأخير الكلي (تأخير المريض وتأخير مقدم الرعاية الصحية) كان 60.8٪ من جميع النساء المشاركات في الدراسة (أكثر من ثلاثة أشهر).

تم العثور على العديد من الأسباب لتأخير المريض في زيارة الطبيب للكشف عن الاعراض الاولى لسرطان الثدي، وكانت الاسباب كالتالي: 98٪ من النساء المتأخرات لم تنظر الى هذه الاعراض بانها خطيره، الحرج من زيارة الطبيب وفحص الثدي 94.2٪. المرأة لا تتلقى دعما من الزوج والأسرة 93٪، 77.8٪ على التوالي. الوضع الاقتصادي للأسرة91.4 ٪. الخوف من تشخيص سرطان الثدي والجراحة واستئصال الثدي أو جزء منها 90.8٪، 88.6٪، 74.2٪ على التوالي. التأثير على وضعي بصفتي امرأة أو زوجة 83.4٪.

وجود أحد أفراد الأسرة يعاني من سرطان الثدي 80.6٪. الاعتقاد بأن العلاج المتاح لسرطان الثدي يؤدي إلى الموت السريع 79.8٪. استخدام العلاجات البديلة مثل الأدوية العشبية 77.2٪. الرفض للتوجه الى الطبيب وفحص الثدي مهما كانت النتائج 72.8٪. عدم وجود الوقت الكافي 72.8٪. عدم وجود طبيبة مختصة بسرطان الثدي 70.6٪.

وقد وجدت الدراسة ان هنالك علاقة ذات دلالة احصائية بيت التأخير في التشخيص والعديد من متغيرات الدراسة من بينها. التقدم في السن وخصوصا ما بين (46-60) سنة، انخفاض المستوى التعليمي، النساء المتزوجات، مستوى الدخل المنخفض وجود كتلة ليفية أو التهاب في الثدي في فترة ما قبل اكتشاف المرض.

وقد وجدت الدراسة ان هنالك علاقة ذات دلالة احصائية بين التشخيص المبكر والعديد من متغيرات الدراسة من بينها، بين النساء التي زارت الطبيب خلال الخمس سنوات التي سبقت اكتشاف المرض، بين النساء التي عندها أحد من افراد العائلة مصاب او قد اصيب بسرطان الثدي (الام او الاخت). بين النساء التي تعرف ما هو الفحص الذاتي للثدي، والنساء التي تقوم بعمل الفحص الذاتي للثدي وذلك قبل اكتشاف المرض. والنساء التي كانت عندها اعراض أولى مثل ظهور كتلة في أحد الثديين.

اوضحت الدراسة ان (52.7٪) من النساء المشتركات في الدراسة هن في مرحلة مبكرة من سرطان الثدي (المرحلة الأولى والثانية). كما اوضحت الدراسة ان (47.3٪) من النساء هن في مرحلة متأخرة من سرطان الثدي (المرحلة الثالثة والرابعة). وجدت هذه الدراسة ان هنالك علاقة قوية ذات دلالة احصائية بين تأخير المريض أكثر من ثلاثة شهور لطلب المشورة الصحية وتأخير مقدم الرعاية الصحية أكثر من شهر لتأكيد التشخيص وبين تقدم الحالة المرضية والزيادة في حجم الورم.

الخلاصة: مجموعة معقدة من العوامل التي تساهم في تأخير تشخيص سرطان الثدي عند النساء الفلسطينيات اللاتي يتعالجن في مستشفى بيت جالا الحكومي. خلصت الدراسة ان معظم النساء المشاركات في الدراسة بدأت العلاج بعد التأخير. وان كلا من تأخير المريض في طلب الاستشارة الطبية وتأخير مقدم الرعاية الصحية في الاسراع في التشخيص مرتبط في تقدم المرحلة المرضية عند النساء المصابات بسرطان الثدي. اوصت الدراسة الى رفع مستوى الوعي وتعزيز الكشف المبكر عن سرطان الثدي، وايضا الى انشاء برنامج وطني للتشخيص والعلاج قبل تقدم المرحلة المرضية، اعادة النظر واصلاح السياسات الصحية المتعلقة في تعزيز الاسراع في تشخيص سرطان الثدي عند النساء الفلسطينيات واللاتي يتعالجن في مستشفى بيت جالا الحكومي.